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ORIGINAL ARTICLES.

FATTY AND FIBROID DEGENERATIONS. BRIGHT'S DISEASE, APOPLEXY, FATTY HEART, PUERPERAL CONVULSIONS, CATARACT, ETC.

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INTRODUCTION.

Space does not warrant more than a consideration here of fatty degeneration, somewhat in detail, with a short notice of fibroid degeneration; indeed, the explication of the first is none too full when the importance of the subject is noted. This medical contribution is contrary to the somewhat conventional pathology whose nomenclature ends in "itis."

THE FATTY DEGENERATIONS.

General Principals.—Fatty degeneration is where tissues that are normal parts of organs are replaced by fat in its many forms of oily, lardaceous, waxy, glassy, atheromatous, soapy and crystalline bodies. For example: *a.* When the muscular tissues of the heart are more or less changed into fat, it is fatty degeneration. *b.* When the circular muscular fibres of the arteries, the terminals of the arteries and the capillaries, are changed into cholesterine, it is fatty degeneration. *c.* When the kidneys are more or less changed into fat, it is fatty degeneration. *d.* The periphery of the cornea. *e.* The crystalline lens. *f.* The liver. *g.* The brain substance. *h.* The spinal cord. To name no more.

a. Is known as fatty heart. *b.* As apoplexy. *c.* As Bright's Disease, one form of. *d.* Arcus senilis. *e.* Cataract. *f.* Fatty liver. *g.* Softening of the brain. *h.* Some forms of locomotor ataxia, spastic paralysis, etc. All of these are local manifestations of a general cause invited by a less power of resistance in the organs affected. It has been said we are born with each one of our organs or systems endowed with a certain amount of force or dynamos to do its work in life. This is what we call constitution. One born with a good constitution is one born with a liberal supply of vital dynamos and *vice versa*.

A weak part of the body or a machine is liable to get out of order the first of all. This principle may explain why, in different individuals, the heart is affected with fatty degeneration in one—the brain in another, the kidneys in another and so on. Though in bad cases the degeneration may attack all the organs in time, if the causes are kept up long enough.

Another definition of fatty degeneration—(Micrographic Dictionary, 1883, p. 237): "The abnormal deposition of free fatty matter in the histological elements of animal and vegetable bodies. When, from whatever cause, the normal functions of the morphological elements of a tissue—cells or the secondary deposits formed in them—become languid or interrupted, free globules of fat or oil become deposited in them; and as this fatty matter increases in amount, the tissue loses, to a greater or less extent, its natural and physical properties, hence, it is said to be in a state of fatty degeneration. The discovery of fatty degeneration of tissues is probably one of the most valuable fruits of microscopic study in regard to medical science; for it has been shown that maladies supposed formerly to arise from too great an abundance of the circulatory fluid, have really had their origin in a decayed state of the tubes or vessels in which the fluid was contained, and that the natural process of human decay, as it is called, is a morbid process or disease, probably to a certain extent as remediable or preventible as many other diseases to which man is naturally liable. Here is indeed a matter of great interest." "In addition to the deposition of fat within the elements of a tissue undergoing fatty degeneration, amorphous, finely granular proteid matters are sometimes found. Occasionally also brown, yellow, red or black" (aniline blue or emerald green, E. Cutter), "granular or massive pigment is met with (pigmentary degeneration), together with amorphous or crystalline calcareous salts, as the carbonate or phosphate of lime (calcareous degeneration); sometimes the fatty matter is crystalline; it then generally consists of cholesterin" * * * "fatty degeneration is intra-cellular and inter-cellular of glands, of vessels, of muscles, of exudative corpuscles, of inflammatory deposits."

General Principles as to Causation.—Acute fatty degeneration is produced in poisoning by phosphorus. In a case where a man died in twenty minutes (a suicide) the muscular fibrillæ of the heart and the tissues of the kidneys were shown to me at Harvard medical laboratory in a state of fatty degeneration. This was truly acute. It is almost impossible to conceive of such a rapid transformation, but the following conversation with Dr. B. W. Richardson, F. R. S., held in London by the writer in 1889 shows more rapid action:

Artificial Synthesis of Cataract by Sugar.—"Dr. Richardson, was it true that in your experiment where a teaspoonful of a saturated watery solution of common sugar injected under the skin of a frog or guinea pig produced cataract in both eyes in twenty minutes?" "Quicker than that," said he, "it was less than ten minutes, and many other things besides will produce cataract as quickly." Now cataract is a fatty degeneration. The German oculists say so, and I have satisfied myself by the microscope that this is so. In 1876 I took micro-photographs of cataracterous tissue which clearly showed their fatty character.

Another general cause is want of exercise, producing a languid or interrupted circulation. It is well known that horses not exercised soon deteriorate and become useless. I knew an instance where a wealthy gentleman bought a fine span, which ran away and threw him out so that he struck his back against a post on the sidewalk. The horses were not used after that nor exercised, and in less than three months were good for nothing. The horsemen told the writer that their muscles were turned into fat. (The injured owner never fully recovered, died a year or two later of fibroid kidneys, as found on examination after death.)

Partial Paralysis is another general cause of fatty degeneration.—It may be on the principle of disease as seen when a person is paralyzed on one side of the body from the rupture of brain blood vessels, whose transverse muscular coats have been fattily degenerated. Thus weakened they have yielded to the normal arterial pressure and allowed the blood to escape, as a decayed lawn hose pipe allows the water to escape through its sides because the rubber has lost its strength. Muscles must have exercise to retain their normal condition. This is one secret of the benefits of massage.

Food of certain kinds is a general cause of fatty degeneration, because its constitution is such that it turns tissue into fat, and because the gases produced by it in the alimentary canal cause paralysis by absorption as said by some, and hence results devolution into fat from the languid or interrupted circulation. The production of carbonic acid, sulphydric acid, ammonium sulphide, and other gases in the alimentary canal is probably the most prolific cause of fatty degeneration, as people will eat foods that produce these gases, because they look good, taste good and smell good.

Physical injuries may produce fatty degeneration in animals as they cause fatty and starchy degeneration in the protoplasm of the body cells of apple substance. This I have noticed in studying rotten apples. Taking a yellowish part of an apple, which appeared to be rotten, but which really was the result of an injury to the apple by a blow or by a flattened surface by pressure, as seen when the head of an apple barrel has compressed the apples, I have found not only fats but more abundantly grains that give the iodine tests of blue.

Sometimes the starch was so abundant as to make the apple substance hard and uncrushable under the glass cover of the microscope slide. These bodies had every appearance of the so-called amyloid bodies that are found in the urine, in the brain substance, and elsewhere in the human body. In the apple the protoplasm of the substance cells was clear, glassy, and transparent. Evidently the injuries done to the apple substance by violence lowered the vitality of the cell contents and it may be, paralyzed them so that as a result the amyloid bodies were formed. At any rate they were not found in the uninjured cells.

Paralysis is one result of injuries, and the withdrawal of nerve force by the application of cold.—In the softening and breaking down processes of decaying vegetable substances, there must be retrograde development (dissolution) and a lowering of vital processes.

Amyloid degeneration is often seen in the fatty degeneration of the kidneys. Indeed the writer is inclined to think that it is the first step in the process of fatty degeneration. And hence, when amyloid is found, it is to be looked on as a fore-runner of fatty degeneration and should be treated as such.

Amyloid, like starch (amylum). Name was given by Virchow to bodies that look like starch grains found in tissues and organs, the brain, liver, kidneys, breasts, spleen, lymphatic glands and small arteries undergoing waxy or lardaceous modification of fatty degeneration.

It is colored a deep reddish brown by iodine. Amyloid is found in the cotyledons of certain Leguminosæ as the tamarind, haricot bean, etc. Vegetable amyloid is colored blue by iodine. (Micrographic Dictionary.)

The liquifaction of fat found in the urine and underneath the skin should be looked upon as a form of fatty degeneration. Certainly it is not healthy to have liquid fat in masses, more or less large, present in the urine or in the blood, coming from the fat that underlies the skin. The sub-dermal fat should be strong enough to hold its normal shapes and not coalesce in drops more or less large, by the squeezing from the punctures made in the skin to procure the blood for a microscopical examination.

In all these cases care should be taken lest there are sources of error, and foreign oil has come from some other source than the human body.

Is fatty degeneration ever a normal process? Yes.—It occurs in the normal sub-involution of the uterus. Here the organ just after birth is as large as a child's head, but it has to come down to an organ about three inches in length and two in width at the fundus. I have examined the lochia from a uterus undergoing this process and found a beautiful example of degeneration by turning into fat. It is difficult to say whether this is an example of evolution or devolution, *i.e.*, an evolving up to a higher position or devolution downwards to a lower. But probably sub-involution is the best term to indicate a restoration downwards to a normal size and shape of the uterus after its work of developing a new-born is over.

Another instance of normal fatty degeneration is in the Graafian vesicles; the walls of the vesicle weaken so that the mature ovum escapes. Another is the corpora lutea, which is found in the Graafian vesicle cavity after the ovum has escaped.

In the epithelia of the liver to a moderate degree—in excess it is a diseased fatty degeneration. In the mammary glands and the ceruminous glands, in the intestinal epithelia during digestion, in the marrow, underneath the skin and in the interstices of the body fat is normal.

These are the only instances where the production of fat or fatty degeneration is normal in the animal body unless we include the *fatty degeneration of tissues by old age.* Here again we find an analogue in the vegetable kingdom. On one occasion I heard a sermon on the text "We all do fade as a leaf." It was in the fall season. After the sermon I went home to the house of the preacher, who remained behind to attend Sabbath school. At his study window stood an apple tree with unchanged leaves, and near by a maple tree with leaves fading in the gorgeous apotheosis, which New England people so well know when the leaves of maple and other trees die in a blaze of glory from old age and not from frost.

Now, thought I, was a chance to see how the leaves fade, and to encourage the preacher in his admirable comments on the text. So I took the microscope and

found in the substance of a gorgeous maple leaf the chlorophyll changed into fat in globules and amorphous granules, and a cross section of the stem of the leaf showed the lumen of the stem ducts to be impinged upon by a clear glass-like deposit, lining the walls and forming another tube within, so as to materially interfere with the supply of sap from the roots and trunks. This diminution of supply might account for the fatty degeneration by the withdrawal of the normal amount of nourishment lowering the vitality of the protoplasm of the cells of the leaf substance, and so I showed it to the clergyman, Rev. D. O. Mears, D.D., of Worcester, Mass., and told him that our fading like a leaf was realistically true—that both leaf and we faded by fatty degeneration, and that to grow old gracefully and die at the legitimate time, is an apotheosis of glory like the leaves in question, and that a process of death was a process of life, as mentioned before in the sub-involution of the parturient uterus.

The production of fatty livers of geese as a gourmand's delicacy, practiced in Sharbough, is another example of fatty degeneration by feeding, and is well known to all students of physiology as *pâte de fois*. In the recent reports of some cases of hepatic surgery on gall stones where there was trouble from the friability of choledochal structure and the gall bladder "tore all to pieces in spite of the care used"—there must have been a fatty degeneration caused by food, for no boy ought to have gall stones, which are merely an aggregation of fat acids and compounds of cholesterin, unless he has been having improper feeding which has accumulated these very abnormal bodies. This leads to some general remarks on

ATHEROMATOUS ARTERIES.

Atheroma is a Greek derived word signifying meal; it is applied to tumors and the degeneration of the muscular and other coats of arteries, which degeneration sometimes deposits on the lining membrane, rough feeling masses which flake off leaving hard and thin patches of whitish deposit which roughen the arterial coats, and interfere with the circulation. I have known this deposit to be made up of cholesterine crystals in plates, irregular, oblong and with re-entrant angles. It is one of the fat series of crystals. It is found in the blood. A late contribution to the knowledge of atheroma was published by a German physician who was the president of a vegetarian society, but who gave up his position and vegetarianism when he found that his temporal arteries were becoming atheromatous at 40 years of age. A rigid artery, he affirmed, meant death. According to this and other observers, vegetable food helped to cause this deposit of atheroma. It is probably so with the calcareous deposits in the coronary arteries of the heart as found in *angina pectoris*, mixed with lime or soda salts. At any rate these deposits interfere and cut off the supply of blood to the heart which should come through the coronary arteries, and may be and probably is one cause of the fatty degenerations of the heart, as we see in the obliteration of the ducts in the stem of a maple leaf connected with the fatty degenerations of that leaf.

SPECIAL PRINCIPLES. APOPLEXY AND RESULTANT PARALYSIS.

When fatty degeneration affects the circular muscular fibers of the arteries of the brain, the latter become weakened and sometimes give way to the normal (oftener to the abnormal) pressure of the heart and allow the blood to escape into the adjoining brain tissues. These being more or less soft and yielding, are forced away until the resistance is enough to balance the arterial blood pressure. Outside of the anteries the blood coagulates into a clot which also exerts a sealing process against the escape of more blood. Hence it is that people with apoplexy do not always die. Sometimes the blood will flow into the ventricles of the brain and form large clots, which, if the patient lives long enough, are partly absorbed, as in a case occurring nearly 30 years ago. About nine months before death, she had left lateral facial paralysis, of which she was gradually recovering, when she suffered another hæmorrhage into the right ventricle, filling it completely, and which ended her life in a few days. The autopsy revealed the above facts. She was completely paralyzed on the left side of the body but retained memory and consciousness. This seemed to be due to the fact that the clot was central and not peripheral. This case had fatty heart, kidneys and liver, and the brain was softer than normal. The kidneys were not developed beyond the size of a child six years of age. Her history showed that she had nearly died of scarlet fever at that age.

Serous apoplexy is a form of apoplexy where only the watery parts of the blood escape into the brain tissue, but this we shall not consider here.

If the brain hæmorrhage comes near the respiratory nerve center or the origin of the pneumogastric nerve the patient dies as if receiving a blow from a club, hence the ancients called the attack a *stroke* as from a club (i.e. *apo* from, *plessein* to strike), and this is the popular idea of to-day.

The Science of Medicine needs rewriting in this respect, and the disease should be put down as merely one of the local manifestations of a general diseased condition, i.e., fatty degeneration.

Some think that obesity is a sign of impending apoplexy; not always. Lean people have fatty degeneration. Remember the definition here given, that this means fat replacing other healthy tissues. It is not fat deposited outside of an organ. Fat is essential for many purposes in the healthy economy—to cushion the skin, fill up spaces between the muscles, cushion the eyes, act as a non-conductor of heat, to name no more.

It has been shown that the liver will change beef into necessary amount of fat in certain cases that need such food alone and nothing else.

It is sad to see distinguished men in the height and glory of their usefulness cut down at once as with a blow from a club simply because they have fed improperly. One feels it is impossible to refrain speaking out his belief, so that such cases should be less common, as one would cry out if he saw men drowning, simply because people could not or would not appreciate the situation. The point to be enforced further on is that apoplexy and the resultant paralysis, comes from eating starches and sugar in excess as a primal cause.

Society food ethics are governed by the æsthetics of taste and sight altogether too much. It will be better for the race when it becomes fashionable for the animal, man, to feed as other animals are fed, with a view to health and usefulness and not because the food looks good and tastes good.

The *diagnosis of impending apoplexy* is possible by morphological examination of the blood.

BRIGHT'S DISEASE OF THE KIDNEYS.

This is one form of fatty degeneration. It is thought by many that albumin in the urine is an infallible sign of Bright's disease. But while we may have albumin in the urine without Bright's disease, it is true that it is one factor in the diagnosis. Another factor is the presence of casts of the kidney tubes.

By casts are meant bodies which are moulded forms of the tubes, as a candle is formed by the mould. In other words, albumin, fatty matter, lardaceous and hyaline matter is poured out of the blood into the tubes of the kidneys, coagulate and form casts of these moulds or tubes, and which sooner or later separate and are found in the urine. Casts make *factor two* in the diagnosis of Bright's disease. Another factor is the presence of fatty epithelia from the kidneys; that is when fat in the form of minute globules invades the kidney epithelia. In the intestinal epithelia this would be a normal process during digestion. Fatty epithelia make *factor three* in the diagnosis. When in a given case are found all three factors together, then in my opinion the diagnosis of Bright's disease is complete. To be sure, I found a case where fatty epithelia were very numerous and large, and on studying the urine for several consecutive days afterwards, I found the albumin and the casts, but when the case went on diet it improved rapidly, the three factors disappeared and the case is now well. It seemed to me that I was dealing with a case of Bright's disease in its beginning. So also has a late case of petit mal (epilepsy) which showed a great abundance of casts without the albumin or epithelia, though they were discovered later, separated from the casts. It is said to be possible to have Bright's disease without the above three factors, as a late autopsy proved, according to the report. Still we think that if the reporters had studied the urine *daily for months* the factors named would have been found. It is a great mistake *not* to examine urine daily for a week at least. I once knew a good country doctor to send a case of albuminuria to consult with an urban practitioner, who found no albumin, and cast rather disparaging reflections on the rural one. Both were right as to presence and absence of albumin, but both should have remembered that albumin comes and goes, especially in cases of catarrh of the spermatic ducts.

Some think that the essence of the kidney trouble is in the arterial fatty degeneration—possibly so—but it is fatty degeneration all the same, which is the point here sought to establish. Some think the kidneys degenerate fattily from overwork. But they are made to work incessantly through life. In my opinion the fatty degeneration comes from the *food* and *food chiefly*. The reason is that I have seen many cases where the signs of Bright's disease have been removed and health restored by means of a diet that excluded fat producing food, *i. e.*, starches, sugar and other carbohydrates. In other words, give Nature a diet that excludes fat forming food in abundance, to support life and she will stop of herself the destructive breaking down and systemic disintegration of tissue by fat, other things being equal.

BRIGHT'S DISEASE AND PUERPERAL CONVULSIONS.

Puerperal convulsions in which the urine presents the three factors named must, I think, be classed with Bright's disease.

Of course the uræmic poisoning should not be forgotten, but so long as cases of convulsions have occurred in men sick with Bright's disease, which, if they had been women in, or just after labor, would have been called puerperal convulsions, it must be admitted that Bright's disease and puerperal convulsions are practically the same thing for treatment. We quote the case noted under apoplexy again.

She had puerperal convulsions with her second child, and afterwards with her third, a fœtus of six months. The post-mortem in her case showed conclusively Bright's disease of the kidneys, so that in her case the puerperal convulsions and Bright's disease coëxisted.

In another case (a primipara) there were *post partum* puerperal convulsions along with the triad of factors in the urine of Bright's disease: Albumin two-thirds, fatty epithelia and kidney casts, with signs of cerebral hæmorrhage, right hemisphere. The placenta was small and one-third of its substance was occupied by oval, yellowish, smooth, hard and stony tumors. I thought them cancerous but the microscope showed them to be made of concretions of cholesterine, re-entrant angledcrys tals, completely including the placental tufts, and most of the cholesterine crystals had their long diameters parallel with the long diameters of the tufts.

These two cases, it seems to me, sufficiently illustrate the connection of fatty degeneration with puerperal convulsions.

At the risk of repetition it may be said that the latter case was put on to the liquid beef essence in full doses. The bowels were moved by cream of tartar and jalap. Consciousness returned after three days.

The albumin entirely disappeared within ten days time—the fatty epithelia and casts were longer in going. There was left facial paralysis for three years. The child weighed 3½ pounds at birth and is now eleven years old. The mother has developed into beautiful womanhood. Medical gentlemen who saw her in consultation, gave no hope of her recovery; but for beef she must, humanly speaking, have died. She has borne two children since then, both of them healthy.

BRIGHT'S DISEASE OF THE LUNGS.

The late Dr. Louis Elsburg, of New York, whose early death we do not cease to mourn, told the writer there was such a disease recognized by German authorities but not by Americans. They are rare; they come in with the general fatty degeneration of the kidneys sometimes.

The lungs may break down, and cavities form; there may be copious hemoptysis, gravelly sputa as in fibrous consumption, and yet no *morphology of consumptive blood* which should be present in ordinary tuberculosis of the lungs. The following is a case: I was called to Mrs. Blank, aged about 25 years, childless, residing in Connecticut, with instructions to look up her case as consumption. I found her very sick in bed, weak, coughing, occasional hemoptysis more or less profuse, sputum copious, containing beautiful crystals of the triple phosphates of ammonia, lime and magnesia, physical signs of cavities in left lung, upper third. Heart feeble and enlarged, valvular sounds normal. The urine was highly albu-

minous and had fatty epithelia and casts in abundance. (I learned that none of her previous medical attendants had examined the urine, though their services as consultants had been paid ($600) six hundred dollars by the month. Satisfied with the chest symptoms they neglected the urine. I hope no reader of this will ever make such an omission in any of their chronic cases, at any rate I will not allow myself to do so.)

The blood had a less proportion of corpuscles to the serum than normal. Fibrin filaments not too much developed. The red corpuscles and the white and the serum were not as they should be in tuberculous blood. These things determined the diagnosis of Bright's disease of the kidneys and lungs, and no consumption. The patient was too far gone to respond to treatment and died. No autopsy.

When we consider that there are muscular fibers in all the bronchial tubes, about the same as in the arteries, and that so-called asthma is when there is a spasmodic contraction of their muscular fibers, it is probable that they undergo fatty degeneration as the like muscular fibers do in the arteries when the system is deluged with fat producing food.

It may be that the rarity of fatty degeneration of the lungs is due to the elastic nature of the lungs, and the close connection with the air that permeates the whole of the lung tissue, giving rise to physical changes of endosmose and exosmose which keep up a lively and unimpeded circulation. Still the frequent presence of pigmental degeneration, as shown by bronze, black, aniline blue, emerald green, amorphous and massive crystals in the sputum, shows a tendency to fatty degeneration of the lungs. Also, as fibroid degenerations are partly due to a sluggish and imperfect circulation, and is found in the lungs much oftener than is supposed, it may be that if the morphology of consumptive blood was generally understood and used, that more cases of fatty degeneration of the lungs would be known. When things are unsuspected they are not apt to be looked after.

THE NECESSITY OF PHYSICIANS' AID ASSOCIATION.

BY JOHN S. ROBERTS, M.D.,
PRESIDENT OF THE PHILADELPHIA COUNTY MEDICAL SOCIETY.

The Directors have put me upon the program to address you upon the necessity of mutual aid associations, which shall render assistance to disabled physicians and to the families of physicians who have died without leaving provision for their wives and children. It is scarcely possible that any physician here to-night is unacquainted with the urgent need for such an organization; but there are those present not of the profession who may be surprised to hear that the practice of medicine is not a lucrative vocation. No one can begin the practice of medicine without having spent a good deal of money in obtaining his technical education; nor, can he begin his work until he has at least reached his manhood. Those entering upon a commercial career can earn a certain amount of income, even though it is small, before that age. A young doctor, moreover, starts in life burdened by the cost of the necessary books and instruments. Then, too, the doctor has to keep up the appearance of success, for few will employ a physician who wears shabby clothes, and has a dilapidated home, showing upon the surface his inefficiency. Is one likely to employ a physician who is known to have few patients? A feeling of charity may occasionally impel a man to employ a mechanic who is in need of work, but few of us would place our bodies in the care of a doctor evidently trusted by few clients. Thus it is that the necessity of maintaining decent appearances prevents on the part of a doctor that economy which in other cases is so commendable.

Another contributing factor to the limited income of a physician is the fact that practically all the work must be done by his own hands and brain; he cannot appoint clerks to assist him or delegate the routine business to another. The sick man who calls a physician wants the physician for whom he sends, and will accept another only grudgingly and but for a short time. When we consider that the day is but twenty-four hours long and that much of this time is needed for sleep and refreshment, we appreciate the impossibility of one person carrying a large business without help. Then, also, the sense of propriety prevents a physician publishing a claim to superior ability in the manner permissible to merchants calling attention to the goods which they have for sale.

I was recently struck by the provisions of the Corporation of Barber-Surgeons in London, which, in 1307, forbade its members putting blood in the windows as an advertisement of their skill. This shows the objection to professional advertisement even in those early days. It holds good in the present time, for of little professional standing are the dentists who put extracted teeth in their windows; or of doctors who fill their windows or offices with tape-worms and tumors preserved in bottles of alcohol.

The public does not realize the fact that the physician cannot avoid doing a great deal of professional work for which he never receives compensation. No educated man is so directly and personally employed by the very poor. The clergyman in administering to the poor of his parish receives an indirect recompense from the wealthier class of parishioners who pay his salary. The doctor, however, is directly employed by the indigent, from whom he must receive his fee if he is paid at all. The result is that the professional remuneration received from the poor is totally inadequate for the services done.

Sir James Paget, in investigating the subsequent career of graduates of one of the London Medical Schools found that twenty-five per cent. of them had left the medical profession for more lucrative callings. In this country Dr. W. R. Hubbert reports that of one hundred of his medical friends nearly seventy-five per cent. had, after graduation, entered other callings to add to their incomes, becoming real estate agents, book canvassers, etc., as well as practitioners.

Dr. Thurston found that one hundred and seventy-five different practices advertised for sale in *The Lancet* had an average income of $625 per year. When it is considered that the income in each case was the gross receipts of the practice offered for sale, and was estimated by one who would be anxious to make the best showing possible, it can readily be understood how poorly the average doctor is paid for his services. It has been estimated that the average income of all medical men in England, who actively work in their profession and have no other revenue, is $1,000 a year. A writer in the London *Quarterly*

Review, says that there are in England not a few competent practitioners of great ability and industry who, although willing to undertake anything honorable, do not receive $500 a year; the same writer says one medical man in forty rises to a position of professional eminence and social dignity. I am quite sure that these statistics, though at first appalling, will, upon second thought, be recognized by us all as holding good in this country. It is, therefore, the duty of every member of the Philadelphia County Medical Society to consider the propriety of becoming a member of the Mutual Aid Association, not because he feels that he may need assistance from his colleagues during his life or after his death for his family, but because of the help required by his needy brothers. I cannot, it seems to me, do a better thing than to urge you to become members of the Mutual Aid Association this evening, and to see your attorney as early as possible tomorrow and insert in your wills a legacy, even though small, for this object.

In looking over some old books lately I was greatly interested by the provisions made in earlier times for organizations of this character. For instance, in the time of Richard II, about 1387, the Corporation of the Barber-Surgeons in London, adopted a series of ordinances or regulations which corresponded with what we now know as a by-law.

I read from this slip of paper a translation from the Norman French of one of these ordinances. It is noticeable that it is the *first* of the ordinances, not the second, third, or fourth. It reads as follows:

"Firstly, to the honor of God and all his Saints, and to stir up the Commons of the people to do well, and to have perseverance in well doing, it is ordained that if any brother of the Fraternity who has been of this Fraternity for seven years, by chance fall into trouble, or into poverty, and if he have nothing left of his own by which he may be able to live, and it be not through his own folly, that then he shall have each week from the common box tenpence half penny for his sustenance."

At a still later period the following paragraph is found in the regulations for the Government of the Guild of Surgeons. This Guild, it must be remembered, was contemporary with the Corporation of Barber-Surgeons, and at one time united with it, so that the descendants of English stock may consider ourselves as being a sort of posterity to these two old surgical organizations of Great Britain.

The following regulation was made in 1435 for the Government of the Guild of Surgeons.

"Also it is ordeined and assentid in this composicioun that eueri Cirurgian of the fellowschipe in the craft of Cirurwgie to paiellid a quarter to a box that is viiid ayeer to the profit and worschip of the craft in helping and releuving the nede of the pore men of the same fellowschip."

In order to show the value of even a small legacy which I trust you are going to put in your will to-morrow for the benefit of this Association, I wish to point out to you the result of such legacy by Robert Ferbras, Citizen and Barber-Surgeon of London in 1470, who gave or bequeathed (it is not certain whether it was given before death or left in his will) two freehold houses in the Parish of St. John to be divided one moiety after the repairs among poor members of the Corporation of Barber-Surgeons in London. This provision, made over four hundred years ago, is to this day distributed by the officers of the corporation among twenty-eight members and their widows. Do you not therefore see the amount of good that can be accomplished if each member of this society will do as did the barber-surgeons in the 15th century, whose name otherwise would probably have been lost to us.

I have made these quotations to show that even in the earliest times professional men found that the income derived from practice was not to be depended upon; that they knew it was a vocation bringing in no large remuneration, and that a warm feeling for their colleagues compelled them to do what lay in their power for those members of the profession who fell into pecuniary distress and left their families without a proper income.

PELVIC PERITONITIS. ITS TREATMENT BY ABDOMINAL SECTION.

BY W. H. LINK, A.M., M.D.,
OF PETERSBURG, IND.

"The evil that men do lives after them, the good is oft interred with their bones."

Especially is this true of those men who, in times past, have originated the so-called systems in gynecology. Pernicious doctrines, false theories, and discarded methods live and flourish luxuriantly among the rank and file of the profession long after the great teachers who put them forth have mouldered into dust.

We hear men talk of ulceration as glibly as when gynecologists were nothing more than animated sticks of argenti nitras. There are yet those who labor diligently for weeks and torture patients for months trying to lift up with some sort of a pessary an enlarged and displaced uterus, fixed by inflammatory adhesions due to tubo-ovarian disease.

The rage for sewing up the lacerated cervix without looking higher for pathological conditions is still gratifying the mechanical dexterity of gynecological enthusiasts who have never taught their fingers to see through the vaginal vault.

The irregular and profuse hæmorrhages due to salpingitis or ovarian abscess are made worse or complicated with peritonitis by the use of the curette under the mistaken belief that causes for such conditions can exist only in the uterus itself.

The irritating electric current is shot through diseased tubes and ovaries day after day increasing tubal peristalsis and muscular contraction, inducing tubal leakage, causing pelvic peritonitis, multiplying the strength and enlarging the extent of adhesions, while still further provoking the exudation of plastic lymph. All this is done by honest, though misguided zeal, because somebody has taught that pelvic cellulitis is an entity and that, under the gentle and benign influence of the electric current, boggy masses and indurated tissue will melt away and disappear as by the touch of a magic wand.

The term cellulitis has for years satisfied the routinist whose confidence in iodine painting, hot douches and glycerine tampons is only paralleled by his previous devotion to a stick of caustic.

The past history of the medical profession has amply illustrated one fact, at least. The more visionary a system, the more enthusiastic its devotees. Cold facts, capable of demonstration, appeal to the reason only and the imagination has no sway. Hence the followers of Apostoli, like those of Hahnemann,

relying largely upon the imagination for their facts, continue chasing the rainbows of therapeutics, often finding, no doubt, the buried pot of gold. But the day has come when a reason is demanded for every procedure, and pathology speaks from the operating table as well as from the dead-house. Theories no longer precede facts but are the logical out-come of every day experience.

It is the every day experience, the magnificent surgical triumphs of Lawson Tait, of Birmingham, and Joseph Price, of Philadelphia, that have revolutionized both the theory and the treatment of the pelvic diseases of women. It is the work of them and their followers that has retired pelvic cellulitis into "innocuous desuetude" and given us instead pelvic peritonitis, secondary to and coëxistent with diseased uterine appendages. Two thousand sections by Tait, and more than fifteen hundred by Price, have enabled them to demonstrate beyond cavil that indurated, convoluted, boggy and tender masses filling the vaginal vault and binding the uterus firmly in the bottom of the pelvis are nothing but agglutinated intestine, thickened omentum, or broad ligament, hypertrophied, indurated, convoluted, strictured, displaced and distended tubes, enlarged, cirrhotic, atrophied, or degenerated ovaries, circumscribed collections of pus or blood, complicated not unfrequently by an extra-uterine pregnancy, while very often several of these conditions exist synchronously, tamped into the lower part of the pelvic basin like concrete, the entire mass smothed over with a copious exudate of plastic cement. The tubes may, and do, often become occluded. This may occur at either the pavilion or uterine extremity, or at one or more points along the tube itself, the resulting strictures enclosing as many abscesses as there are pockets in the tube lumen. There may be as many as six or seven strictures in each tube. The pockets may be filled with water, blood or pus, constituting a hyro-, hæmato-, or pyo salpinx. The walls of each tube may be distended and thinned to the point of bursting, or they may be thickened while the tube lumen remains normal in size, the walls when cut having the appearance of scar tissue and possessing very little vitality. In connection with this diseased condition of the tubes, the ovaries may be enlarged and tender, contracted and puckered, or degenerated into a mere shell or envelope filled with a large collection of pus or blood. The symptoms attending such conditions are many, but easily recognized; amenorrhœa, premenstrual pain, irregular menstruation, menorrhagia, scant menstruation, ovarian neuralgia, easily disordered stomach, a waxy color of the skin, a doughy appearance or expression of the face, painful coition, irritable bladder, often both vesical and rectal tenesmus, constant sense of uneasiness on one or both sides, marked pain on the left side when the bowels move, increased when constipation has existed for some time; inability to go up or down stairs, ride a horse-back, in a buggy, in a street-car or any jolting vehicle, without great pain, which is often attended or succeeded by marked nausea. There are frequent headaches, always backache, and in the great majority of cases an offensive and profuse muco-purulent leucorrhœa. There are irregular attacks of the most agonizing pelvic pain of a sharp cutting or tearing character, due to local or circumscribed peritonitis, a result of tubal leakage. These attacks are most frequently attended by elevation of temperature, nausea, coated tongue and anorexia. The belly is exquisitely tender, and the patient has to keep her bed. Should a large amount of pus from sudden traumatism leak into the peritoneal cavity, or should an abscess, by reason of its gradually thinning walls, give way, the patient dies suddenly from shock or from a rapidly diffused septic peritonitis. Should the leakage be no more at one time than protective adhesions and plastic lymph can shut off from the general peritoneal cavity into circumscribed collections, she only goes from bad to worse, becoming finally a chronic bed-ridden, morphia ruined, pain hunted, miserable, useless to herself, a burden to her husband, a disgrace to her children and friends, dead to the world; alive only to pain and suffering. This condition of things, a living death, is the daily experience of poor sufferers in almost every community in the United States, and they are consoled with the statement that their condition will be better just so soon as "the change of life occurs." Thus hoping against fate, they patiently submit day after day, and month after month, to have their vault painted, their vagina stuffed with boroglyceride tampons, their cervix sewed up, their uterus dilated, sounded, curetted, burnt, douched and pessaried. Fistulous tracts from ovarian pus collection burrowing along the rectum and opening at the side of the anus are slit up through the sphincter, and persistently refuse to behave as fistulæ in ano should. Compression of bowel and pelvic blood-vessels by heterogeneous pelvic adhesions gives rise to the most obstinate constipation or distressing hæmorrhoids, which recur as often as removed. The belly is beslimed with poultices, the stomach drugged with opium, until finally, the nervous system giving way under such prolonged irritation, betrays its grievances by erratic manifestations and both mind and body are found to be a wreck.

The chief causes or etiological factors underlying these conditions are specific and puerperal infection. But exposure at or about the menstrual periods, the long continued prevention of conception, traumatisms, the acute exanthemata may, and often do, prove potent causes. It has been a universal experience with me to find endometritis coexistent with tubo-ovarian disease. Medical treatment of these cases can be but palliative at best. This fact should invariably be set before the patient at the outset. Opium as a means of relief from pain, should be positively forbidden. It can only lead to a baleful habit and in no wise become a curative therapeusis.

The best results can be obtained by treating the patient as though preparing for an abdominal section. Keep her in bed. Put her on a liquid diet. Give a teaspoonful of epsom salts every hour till seven or eight doses are taken, or she has a large number of profuse watery dejections. Give her a thorough scrubbing from head to foot and follow with an alcohol sponge bath. Most frequently this regime brings rapid and great relief. But for permanent results, for radical cure, nothing short of a section with removal of diseased strictures and the breaking up of old adhesions is entitled to the least consideration or will have the least effect.

To illustrate the foregoing principles and their application I submit the following cases and their treatment.

Mrs. Z. Y., aged 35, married 12 years. II. para. Had a bad getting up from her last confinement six years ago. Barren since. Had suffered from profuse hæm-

orrhages at menstrual periods. Very irregular. Marked premenstrual pain. Had chronic leucorrhœa, very offensive at times. Had back-ache, headache and disordered stomach. Had had repeated attacks of pelvic peritonitis during last six years confining her to bed for weeks at a time. Had been completely cured by electricity. Had been unable to sleep on either side since cured. Suffered constant pain on both sides of pelvis, much increased at menstrual periods. After being constipated, suffered great pain on left side whenever bowels moved. Walked in a stooping or bent posture. A sudden jar or shake gave her great pain. Could not run up or down stairs nor run a sewing-machine without attacks of pelvic pain following such exercise. Sexual intercourse markedly painful.

Was called to see her in an attack of pelvic peritonitis which lasted six weeks. Temperature ranging from 101 to 105. Pulse running up to 155. Belly over region of ovaries most exquisitely tender to the touch. Digital examination showed uterus firmly fixed by adhesions, vaginal vault full on both sides, while bimanually, an ovarian abscess could be felt on the right, and a large mass of some sort on the left. Both tubes were distended, hypertrophied and tender. Her suffering was so great that the attending physician was compelled to administer large doses of morphia hypodermically to enable her to endure the awful pain of which she complained. Death seemed only a matter of days. She was informed that surgery held out the only hope of cure for her, and she eagerly accepted it. In the meanwhile my friends Dr. Byers and Dr. Fullenwider saw her, and concurred in both diagnosis and prognosis.

On the morning of November 17, 1891, twenty-four hours after she had been prepared, I proceeded to do a section assisted by Dr. Fullenwider, Dr. Clark, and Dr. Byers and Dr. Lamar. Through a median incision I removed both tubes and from each side a large ovarian abscess. The one on the right was so thinned by distention that it burst at once upon attempting to draw it from the pelvis, deluging the pelvic cavity with pus and blood. The collection on the left side was buried in adhesion and was bound to the sigmoid flexure by adhesive inflammation. It was enucleated and delivered whole. It contained thick creamy pus and was of such size as to obliterate both tube and ovary. After irrigating the abdominal cavity with hot water and putting in a drainage tube patient was put to bed suffering some from shock from which she soon rallied. On second day she was attacked with catarrhal pneumonia which kept her temperature up and caused great annoyance from the resulting cough for two weeks. Her pelvic pain entirely disappeared and the drainage tube was removed on the third day. Her convalescence was uneventful from the second week on. She is now in the best of health, doing her own work, has no pain or soreness, walks erect and has gained in weight as well as strength.

Case 2.—Mrs. F. V. Married. III. para. Nine years ago had a miscarriage and suffered at time from puerperal peritonitis. Never been well since. Face and hands swelled every month. Was in bed two weeks of every four vomiting and cramping. Pain radiating from left iliac fossa running across bowels and locating itself apparently in region of gall-bladder. Vesical tenesmus most distressing. Constant desire to urinate. Back-ache almost constant. Profuse leucorrhœa. Sexual intercourse almost unendurable and she suffered with a most intense and excruciating headache for days afterward. She was losing her memory and feared that she would go crazy. She had had almost every kind of treatment following divers diagnoses. Malaria, neuralgia of the stomach, gall-stones, gravel, hysteria, dyspepsia, had each its turn, and yet she suffered.

Digital examination disclosed a uterus completely retroverted and firmly bound in that position by adhesions. There was a bilateral laceration of the cervix, which was soft and patulous. On each side the vault was very tender, in the right, moderately filled, the broad ligament thickened, and on the left a large mass could be felt, but fluctuation could not be elicited. Tubo-ovarian disease with tubal and ovarian pus was diagnosticated and a section advised as the only means of relief. It was accepted. But to set at rest all doubts in the matter, I asked Dr. McMurtry to examine the case, which he did, finding the pathological conditions as above, and he fully seconded both the diagnosis made and the treatment suggested. On the morning of the first day of December, 1891, assisted by Dr. Byers, Dr. Hatfield and Dr. Clark, I opened the abdomen in the median line, broke up the adhesions binding down the uterus, enucleated a large sanguino- purulent tubo-ovarian cyst on the left, and a hydro-salpinx and atrophied ovary on the right. After irrigating the abdominal cavity with hot water and placing a drainage tube, she was put in bed suffering very little from shock. She made a rapid recovery, temperature, pulse and respiration remaining normal throughout. On the fifteenth day she sat up, and on the twenty-first day walked about the house. Her health has been constantly improving. Her pains are gone and she now is able to go about and enjoy life, instead of spending from one-half to two-thirds of her time in the doctor's hands.

The chief objection urged against such treatment is that it unsexes. This objection is more imaginary than real. The disease has already completely unsexed. Rotten eggs bring forth no chickens, and degenerated ovaries, pus tubes, and displaced, diseased, adherent uteri are poor machinery with which to conceive, nurture and bring forth children. Even sexual intercourse in most cases is impossible on account of pain. And if a section cannot make a mother of any such, it at least restores to her the power of discharging her duty to her husband. A thing about as important as child-bearing.

HEART SOUNDS AND CARDIAC MURMURS.

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The study of heart sounds and cardiac murmurs, with reference to their diagnosis by physical signs, requires an accurate knowledge of the anatomy, and physiological mechanism of the heart.

By heart sounds we mean the normal sounds produced by the action of the heart, while new or additional or adventitious sounds are called cardiac murmurs. Murmurs are not modifications of the normal heart sounds, but are new sounds, which are added to, or take the place of the normal sounds, on account of mechanical defects in the action of the heart. These mechan-

ical defects are usually the results of pathological lesions.

The præcardial region or præcardia, is that part of the surface of the chest, which immediately overlies the heart. The upper boundary of this space, which corresponds to the base of the heart, is a horizontal line drawn across the sternum at the level of the third costal cartilage. The lower boundary is a horizontal line drawn through the fifth intercostal spaces. The left lateral boundary is a vertical line situated three and one-half inches to the left of the median line of the sternum, while the right boundary is represented by a similar line, situated four or five lines outside of the right margin of the sternum. The apex of the heart is found in the fifth left intercostal space three and one-half inches to the left of the median line of the sternum. I think this a better and more accurate description of its position, than to say it lies just within the linea mammilaris, for the reason that the nipple varies much in different persons in its relative position to the median line of the body.

The heart sounds consist of two successive sounds, following each other in a perfect rhythmical relation, and with a short interval between them called the short pause of the heart.

After the two sounds of the heart is a longer interval called the long pause. The two heart sounds are called respectively the first and second sounds. The first sound is longer, duller and louder than the second. The first sound corresponds with the systole of the ventricles and with the apex beat, while the second is synchronous with the diastole of the ventricles. In health there is no trouble in distinguishing the two sounds. In diseased conditions of the heart, the two sounds are apt to be confounded with each other, but may always be distinguished if we remember that the first sound corresponds with the apex beat and with the carotid pulse.

Regarding the mechanism of the production of the heart sounds, there has been a diversity of opinion. I believe all are agreed that the second sound is caused by the sudden closure of the aortic and pulmonary semilunar valves. The first sound is probably caused by the forcible tension of auriculo-ventricular valves, the contraction of the muscular walls of the heart, and the thumping of the apex against the parietes of the chest.

Cardiac murmurs are, as I have said, usually the result of valvular lesions. They are classified as direct or obstructive and indirect or regurgitant murmurs. All endocardial murmurs, are produced by the blood flowing in a normal or in an abnormal direction.

[1] "The common law which governs the seat of development and the transmission of all cardiac murmurs, may be stated as this: The abnormal sound called a murmur, is heard with greatest intensity just beyond the point of its development, and is transmitted from this point, forward or backward in the direction of the current of blood, which, together with the valvular defect, is the cause of the murmur. Forward and backward in this instance refer to the current of blood and not to the antero-posterior positions of the body."

With reference to the left side of the heart, we may have a mitral direct and a mitral indirect murmur, an aortic direct and an aortic indirect murmur. A mitral direct murmur is produced by the blood flowing in the normal direction, through an obstructed or roughened auriculo-ventricular orifice. It is heard with the greatest intensity over the left ventricle, at the junction of the fourth rib on the left side with its cartilage. With reference to the ventricular systole, this murmur is diastolic in character—it follows the second sound of the heart. In other words it occurs during the long pause of the heart and is synchronous with the contraction of the auricle.

The mitral indirect murmur is systolic in point of time, and is produced by a current of blood, which, by the ventricular contraction, is regurgitated through an incompetent mitral orifice. It is usually blowing in character, and is heard with the greatest intensity at the apex. It accompanies the first sound and is transmitted below the apex and to the left, along the sixth rib, and may also be heard behind, between the eighth dorsal vertebra, and the inferior angle of the scapula, on the left side.

The aortic direct murmur is also systolic in point of time, i. e., like the mitral indirect murmur it is produced during the ventricular contraction. It is caused by the direct current of blood flowing through an obstructed aorto-ventricular opening. It is not heard, however, at the apex, but just beyond the aortic valve, in the second intercostal space on the right side and close to the sternum. It is transmitted in the direction of the current of blood which produces it, i. e., along the greater blood vessels, and may usually be heard over the sub-clavian and carotid arteries. It may also be heard behind over the fourth and fifth dorsal vertebra, this being the point where the aorta strikes the spine. The aortic indirect or regurgitant murmur is diastolic in point of time, and is produced by current of blood being forced back through an incompetent aortic opening by the recoil of the large arteries. It accompanies the second sound of the heart, and is just behind the aorto-ventricular opening, or in the third left intercostal space, close to the sternum. It may also be transmitted down the sternum and heard at the ensiform cartilage.

In the right side of the heart there may be produced four murmurs, corresponding to the ones we have described in the left side of the heart. These are called respectively the tricuspid direct and indirect, and the pulmonic direct and indirect murmurs. All of these four murmurs are extremely rare and of no practical importance so far as physical diagnosis is concerned. In the first place lesions in the right side of the heart are seldom found in adults, and secondly, when present they are usually the result of lesions at the mitral and aortic orifices, and are so masked by murmurs at these orifices that they cannot be diagnosticated.

All valvular murmurs, as we have observed, either precede, take the place of, or immediately follow one of the heart sounds, and having distinguished these sounds from each other, we may easily determine the rhythm of a murmur. When we have done this, our diagnosis is completed by determining its seat. We shall be able readily to do this if we bear in mind the areas to which murmurs, arising at the different orifices, are propagated, and these we have already stated. Furthermore, I believe we shall always be able to determine the character of a murmur, by reference simply to its area, and direction of transmission,

[1] Porter.

without studying its rhythm. Thus a murmur which is heard in the right second intercostal space close to the sternum, and is transmitted in the direction of the greater blood channels, is always an aortic direct murmur.

A murmur heard in the left intercostal space close to the sternum, and often distinctly heard at the xiphoid cartilage, is always an aortic indirect murmur. Again, a murmur heard over the fourth rib, on the left side, at its junction with the corresponding costal cartilage, is always a mitral direct murmur. This murmur is not transmitted, but is heard only within the limited area here described.

Finally, a murmur heard at the apex and transmitted below and to the left, as far as the anterior axillary line, is always a mitral indirect or regurgitant murmur.

Having become familiar with the location of these areas, and bearing in mind the direction of transmission of the different murmurs, their diagnosis is extremely simple.

Two, three or even four of these murmurs may be found in combination, but having become familiar with the above points in their diagnosis, their differentiation is not difficult.

There is another class of murmurs, of considerable importance, to which we will briefly refer. These murmurs are not produced by endocardial lesions, and are called inorganic or chlorotic murmurs. Their cause is somewhat theoretical. They are due, however, to changes in the blood produced by anæmia, and probably also in part to innervation of the heart muscle from the same cause. These inorganic murmurs may be present at the mitral or aortic orifices, and may be either direct or indirect.

Indirect murmurs are far more common than direct, and of these a murmur at the base is oftener present than one at the apex. This indicates the preponderance of the aortic indirect over any other variety of chlorotic murmurs. These murmurs are heard over the same areas, and are transmitted in the same manner as organic murmurs.

A chlorotic murmur is usually soft, and blowing in character, and is accompanied by the general signs and symptoms of anæmia. These murmurs usually disappear under treatment directed to the general condition.

Dilatation of the ventricles is sometimes produced in connection with these chlorotic conditions, as evidenced by changes in the location of the apex beat. This dilatation of the ventricles sometimes causes organic lesions, principally at the mitral, and occasionally also at the aortic orifice. In other words, and finally, the cardiac condition in chlorosis sometimes culminates in permanent organic lesions.

CARBONIC ACID AN INDEX OF DANGER IN GIVING CHLOROFORM, AND HOW TO LESSEN THE DANGER.

BY THOMAS R. EVANS, M.D.,
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We assume in this brief paper, from several analogies, that the activity of the respiration as shown by the amount of CO_2 exhaled, is an index of danger in administering chloroform, and renders the production of anæsthesia more difficult.

Hence, we argue the comparative safety and ease of administration to weakly persons, and the danger and frequent difficulty to the mechanic.

For this reason doubtless its safety in military life has been much overrated.

The more muscle the more CO_2 generated, greater seems the danger, and greater the amount of chloroform required.

The latter statement is well proven in dogs and rabbits, they being chloroformed with much difficulty.

The majority of deaths from chloroform are probably superinduced by asphyxia, not, however, commencing in the lungs, as the older physiologists taught, but in the systemic capillaries.

We will consider the administration of chloroform, with respect to greater safety, under the conditions of age, sex, digestion, etc.

Age.—The ages which seem most obnoxious are adolescence and the adult age, twelve to sixty. In the first there is an absolute increase in CO_2 as the muscular system is attaining its highest development, and in the second the muscular development being complete, the danger is greater.

As all medical men of experience know, infants, children, and old persons take the anæsthetic with comparative impunity.

Sex.—It is conceded that more than twice as many men are killed by chloroform as women, but during pregnancy and in the absence of menstruation the danger to the woman increases.

For Flint states "that the absolute increase in the evolution of CO_2 with age in the female is arrested at the time of puberty and remains stationary during the entire menstrual period, provided the menstrual flow occur with regularity."

Women are not as quickly killed by gases and vapors as are men.

Digestion.—CO_2 is greatly increased during digestion, but there is no necessity for *waiting* longer than *four* and a *half hours* after the patient has taken food *before commencing* with the *inhalation*, for Dr. Edward Smith found the CO_2 as much diminished after that interval as after twenty seven hours of fasting.

Foods and drinks.—Dr. Smith divides these into excito-respiratory and non-excito-respiratory.

The excito-respiratory foods and drinks are as follows: The nitrogenous ones, the cereals, potato, sugars; milk and its components, tea, coffee, cocoa, chiccory, rum, beer, stout, and the ales.

The non-excito-respiratory are starch and fat. Hence, the propriety of not allowing a patient to partake of articles of the first class within an hour of chloroforming.

The vomiting which such allowance may produce is a minor evil, in fact is conservative, diminishing CO_2 by its sedation, and putting an end to digestion.

Prout demonstrated that CO_2 was diminished by a concentrated infusion of tea, and this accounts for the success of certain German surgeons who prefer tea given before chloroforming, to alcoholics—tea possessing the convenience over alcohol of not being so likely to produce vomiting.

But stimulants have not been given with the view now advocated in this paper, to lessen the formation of CO_2, but with the purpose of stimulating the heart and lungs.

Fortunately, this purpose as concerns the respiration is contravened by the teaching of physiology.

Flint states "that the most constant effect of alcohol, such as wines and spirits, is to diminish the

exhalation of CO_2. This effect is almost instantaneous when the articles are taken into the stomach fasting."

The vapor of alcohol also lessens the exhalation of carbonic acid, and it is probable that the A. C. E. mixture, now justly becoming popular, owes its comparative safety to this fact, and not so much to the fact that the alcohol favorably influences the evaporation of the more volatile constituents.

Time of Day.—The early morning hours, and the earlier before eleven o'clock the better, is the most favorable time for chloroforming. About 11 A.M. and 4 P.M. are the most unfavorable times. At these times the temperature of the body naturally increases, and of course, the activity of the respiration.

The obstetric hours of the night, between twelve and three o'clock, A.M., are the most favorable times in the twenty-four hours, and this is one of the several causes of the safety of chloroform in labor.

These are no merely physiological fancies, but are substantiated by many surgeons, that they have less trouble with chloroform in the forenoon than in the afternoon.

Seasons.—"It has been well established that spring is the season of the greatest, and fall the season of the least activity of the respiratory functions." (Flint.) Had we statistics as to the time of the year as affecting deaths from chloroform, it would probably be seen that the majority of them occur in spring and winter, and this irrespective of the comparatively larger number of administrations at those times.

Temperature.—But if it were true, as some writers and a Commission allege, that deaths from chloroform are due to over-dosing, there would be more deaths during the summer.

For at a temperature of 85° F., air will contain and carry twice as much of the vapor as at 65°.

But as if to neutralize the greater volatility there is much less CO_2 exhaled in warm weather.

Chloroform is the favorite anæsthetic in southern Europe, and in the progressive, yet conservative Southern States of North America, and most of the reports of deaths from chloroform seem to come from the Northern States of the United States, where comparatively little chloroform is used.

Pure Air.—"It has been noted," says Packard in his Minor Surgery, "that chloroform acts more speedily when administered in the open air."

It not only acts more speedily, but more safely in the open air.

This is well proven by the good results from military surgery, which is largely conducted in the open air, and during the warm months.

When the inhalation is begun, as it should not be, in the presence of a large clinic, and with the usual CO_2 saturation of the amphitheater, we often have heard the expressions, "the patient does not take the anæsthetic," "well, doctor, please *give it to him*," etc.

The anæsthetizer's lot, under those circumstances, as he has often experienced, is not a happy one. And thus is illustrated the incompatability between carbonic acid and chloroform.

Moisture.—When possible chloroform should be given in dry weather, as the system furnishes more CO_2 in damp weather.

CONCLUSIONS.

It is the brawn of a subject, irrespective of his weight, that makes chloroform dangerous for him.

To the man with "muscles of brass," and to the sturdy, scantily menstruating domestic, ether and not chloroform should be given, and more especially in northern latitudes.

Should Mr. John L. Sullivan be chloroformed while in his prime, and during a northern spring or winter, America would be in great danger of losing her champion.

The *fatty heart*, which we used to hear so much about, and which is impossible of diagnosis, is as nothing in the scale of danger to the *fatless muscle*, which is both the manufactory and storehouse of carbonic acid.

For this reason it is not the drunkard nor the opium habitué, nor the user of tobacco, and decidedly not the average sedentary and professional man who is a bad subject for chloroform, for all of these exhale a lessened amount of CO_2, but the active and muscular man in the prime of life.

To him it is dangerous and when he is killed by it, it is frequently before he is thoroughly anæsthetized.

HOW AN ELECTRIC CURRENT MAY BE ABSORBED INTO THE LIFE CURRENT OF HUMAN BEINGS BY INDUCTION, AND WITHOUT VISIBLE CONNECTION WITH ANY ELECTRICAL APPARATUS OR CONDUCTOR.

THE EFFECTS WHICH MAY BE PRODUCED BY MEANS OF THE ELECTRO-MAGNETISM UPON THE BRAIN.

BY MARION GUILD WALPORT,
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The phenomena of electrical action by absorption and induction is just now awakening the attention of the scientific world. In Johnson's Universal Cyclopædia, latest edition, Vol. v, p. 188, he says: "The most important phenomena of magnetic action is that called induction, or the magnetizing action of a magnet on distant substances, animate and inanimate. We also find that this phenomena was discovered and put into practical use by Mesmer, a Vienna physician, in 1774, who found that he could influence and communicate at will to his patients, even at a distance from them, by means of electro-magnets generating a magnetic fluid or electric current."

The International Cyclopædia, Vol. ix, says: "By induction we mean the power that an electric current has to excite, to magnetize and to draw into actual contact with itself, properties and bodies near or in range with the current, but not in connection with the same, thus forming a closed current as long as the current of induction is kept up or lasts."

"By absorption we mean the power or force which an electric current has of absorbing or drawing into itself by suction any body near, but not in contact with the current."

In Lessons in Mechanics of Magnetism, p. 29, Edmund Shaftsbury published in 1888, he says:

"The phenomena of induction and absorption by electrical currents is just now awakening the attention of the scientific world."

"Induction is the process by which another person or object is influenced. That actual contact or near approach is *not* necessary is proven by the magnetic needle, which feels an influence exerted thousands of

miles away, yet were this not a fact established beyond all power of contradiction, no person could be found at the present day to believe it." Upon page 35, he informs us that "M. Dubois was the skilful experimenter who first succeeded in making the compass needle deviate by an invisible motor or electrical force, and that this deviation was effected at great distances and ceased when this force was removed."

In a pamphlet called "The Narrative of John Trust," published at Alexandria, Va., in 1865, we find that Joseph Mazzina, an Italian, was said to have been the greatest electro-magnetizer in the world, carrying out his plans largely through subordinates, whom he placed under his influence; he is said to have exerted a wide influence upon European politics by these means, and to have been instrumental in the downfall of Napoleon III. That various crimes have been committed by subjects under the influence of an unscrupulous electro-magnetizer known as "criminal suggestion" is a well authenticated fact, and one that demands immediate investigation. This is also the secret of the mind reader and the medium. Electro-magnetism, be it understood, includes all phenomena in which an electric current magnetizes or influences animal life; the most powerful form being that produced by the electro-dynamo. Some of these dynamos have fork-like springs which are the poles of the machine, and which show in what direction the properties or bodies are which are under the influence of the current. By means of the blower or bellows upon the main shaft a strong current of electrical air may be produced, having a powerful suction. This is the chief element used in igniting the electric spark or natural magnetism—or in other words, vital force in animate life, known as magnetizing and electrocuting by absorption and induction. This current is felt but not seen, unless a wonderful force is used, then a smoke-like vapor may be discovered.

It should be more generally understood that electricity or vital power exists in all things to a greater or lesser degree, and that this electricity, or vital force, constitutes the chief elements of the brain and body. The phosphorus of the brain being identical with the electric spark, then what may not the consequences be when this brain power or phosphorus is ignited by an electric force, thus overbalancing the natural equilibrium or equipoise of the brain and body. The brain is the electrical condensor, ready at any instant to charge or control any nerve of the body.

Thales was not far out of the way when he said "that electricity was the life." Let us realize that the human body alone contains all the elements of a stupendous electric battery.

Man was made out of the dust of the earth. When we recall how many centuries electricity has been known and studied under its various forms and names, we feel less and less reconciled as to the comparative ignorance that exists since the creation of the world; yet we are still in our infancy as to its limits or possibilities, and are constantly expecting new developments.

Thales, the chief of the Seven Wise Men of Greece, discovered something of its power from a piece of amber or "electron," which he found possessed the properties of attracting light articles to itself when excited by simple friction. This was more than twenty-five centuries ago, yet how slow has been our comprehension of this great force. And we generally credit its discovery to Benjamin Franklin, because he was the first student and philosopher to show how its power could be put to practical use in this country, and it is only in our own century that the power and possibilities of the electro-magnet have been in any sense understood. Many cases have recently come to light in Europe showing how this force has been used to add a new and terrible chapter to the records of crime; and we can cite dozens of cases in our own country, from John Brown, J. Wilkes Booth, Guiteau, Ward, Kincaid and others down to pretty Jessie White, who was tortured through electro-magnetism into shooting herself at Joliet over a year ago. That they were victims of this terrible, insidious and most secret form of torture there can be no doubt to an expert, as they have shown every evidence of the same. The effects of an electric current upon the human body are easily detected, chief of which is a grayish or yellowish pallor and deep, dark circles under the eyes, showing that the blood is becoming magnetized or poisoned, and that pressure has been brought to bear upon the brain, thus weakening the vital force and draining the system. Often the victim becomes magnetized until he is not under the control of his own will and judgment, before he is aware of any influence. This crime is resorted to by the electro-magnetizer as stated for various purposes, among which may be mentioned secret communications called "mind telegraphy" or "the under current," "mind reading," influencing legislation, obtaining information as to State and executive secrets, reading the minds of accused persons in order to obtain evidence of their guilt (this latter is known to have been resorted to in Paris), producing insanity, paralysis and various brain disorders, vicarious assassinations, murders, thieves, inebriates, immorality and vice of every kind, and lastly for slow poisoning or immediate death. By the aid of an electric current upon the human body, almost any form of disease, and even consumption, may be produced or simulated. The form of brain torture and exhaustion by which means real or apparent insanity is frequently produced is called "tricknomania" (see *The Woman's Tribune*, May 17, 1890, published in Washington). For description of the effects of electro-magnetism upon the human body, see the *National View*, September 27, 1890 (published in Washington).

When we realize the great force and velocity of the electric current, which is known to travel eight thousand miles a minute, we can understand that the electric poisoner, absorber and magnetizer can keep up at will the current he has ignited or absorbed by his electrical apparatus, or in other words "cupped," no matter how far removed he may be from the victim. As we have said, a powerful current upon the heart stops its beating, commonly called heart failure or heart disease, for which no natural cause can be assigned, and it takes a powerful force indeed to stop or even weaken this great organ, the largest and strongest in the human body.

One of the surest effects of electrocution, or in other words that a human body has been injured by an electric current, says Dr. Tyler, is the tenderness of the flesh, and the slight shock which the piercing of the flesh by a needle produces. We can cite example after example of the terrible secret influence of the electric magnetizer, showing how the lives of honorable men and women are wrecked, how great bodies of men are secretly organized and controlled,

ready at the command of the chief through his subordinates to commit any crime, from arson and murder down to robberies and thefts. We can cite cases of families severed, homes broken up, ladies of high position humiliated and injured by these terrible means; of forgeries committed, money extorted—but enough has been said to impress all with the urgent necessity of an immediate investigation and exposure of this terrible force. Scientists and electricians should be called upon to ascertain if some way cannot be devised to trace the electric poisoner who has absorbed the human being's life current by the means which we have described. The government of every country should at once also pass stringent laws preventing the practice of magnetism, or the so-called hypnotism, even upon animals. In conclusion, let us study the laws of life, which should be the laws of health; in other words, let us study nature, and try and understand the great forces around us. If men and women would only think and reason for themselves, how much misery might be spared the world. The Creator designed that man should not die until he reached an old age, like the corn that is ripe or the fruit that is ready to fall; all else is contrary to the laws of creation, and we do err when we lay the breaking of these laws to divine interposition or Providence. We see no reason or natural cause why man may not live more than a century, when no mechanical cause is at work to sap his vitality. Let us remember the long lives of the patriarchs, when crime was comparatively unknown, and may our teachers, scholars, leaders and divines teach the doctrine of longevity rather than that of mortality; of living useful and honored lives, and teach us how to perpetuate the same by being among the first to discover, to denounce and to expose all forms of vice and crime, all forms of mechanical agency by which means life may be taken or shortened and the causes or motive force discovered.

DENISON'S PORTABLE LUNG COMPRESSOR OR EMPHYSEMA JACKET.

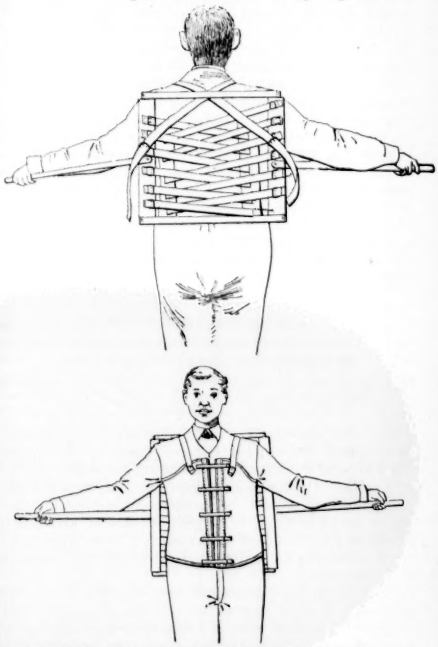
BY CHARLES DENISON, A.M., M.D.,
OF DENVER, COLORADO, PRESIDENT.
Professor of Diseases of the Chest and Climatology, University of Denver; Author of Rocky Mountain Health Resorts, the Annual and Seasonal Climatic Maps of the United States, and of Reports to the A. M. A., and International Medical Congress (1876 and 1887), etc.

This apparatus is especially constructed to aid the clearing out of secretions and stagnant air contained in the lungs under certain conditions of disease, such as emphysema, and bronchiectasis, or either of them alone whether associated or not with the profuse bronchial catarrh usual to these distressing troubles.

Abundant expectoration is brought about, the tendency to pulmonary œdema is lessened, and a freer and more natural circulation both of the air and the blood currents within the thorax is produced by the proper use of this devise.

The following is Dr. Denison's description of this lung compressor extracted from his address as President of the American Climatological Association, Sept. 1890, on "Abnormal Intra-Thoracic Air Pressures:"

Before leaving this subject, I wish to describe a device I have had constructed for the self-treatment of emphysema. We will call it the Portable Lung Compressor. It was suggested to me by the "Rossbach Chair," which, in its mechanism and result, it much resembles. Its purpose is *the rhythmical and forcible compressions of the chest in consonance with expiration*. The idea of assisting the expiratory movements of the emphysematous patient is not a new one, as before Rossbach invented his chair physicians (Gerhardt first) used to train nurses to press the sides of the patient's chest during expiration;



and belts and other devices have been used to compress the chest. The results have been stated as generally favorable.

This lung compressor, or emphysema jacket, is supported and controlled by a simple nearly square frame, which can be hung against the wall, so that the patient can get into the jacket alone. This frame has for its sides pivoted, half round, elliptical beams, arranged so they can be pivoted at from one to three inches from their centres, thus giving greater compression as desired. To these, bands are fastened by buckles, which bands are sewed to the opposite sides of the jacket, and therefore cross each other at the patient's back. By their traction they squeeze the chest when the jacket is used. The compression can be made to suit any shaped chest, or any particular part of a given chest, by dividing the front lacing of the corset in three different fastenings, and by the adjustment which the posterior straps and buckles and the retaining shoulder straps permits The power is ample, which is given by the side levers (attached to the middle of the side rollers), as they are moved forward by the patient's hands during expiration, and backward during inspiration.

In Rossbach's apparatus, the chest was compressed backward against the back of the chair, while in this there is a more even compression of the thorax in all its parts, and this jacket can be used, not only in the sitting posture, but either lying down, standing, or even during exercise by walking. Of course, the great aim is to aid expiration. However, the movement backward of the arms during inspiration undoubtedly aids the act of breathing, not only by freeing the chest from the previous compression but by the more natural position assumed for inspiration. The kinds of breathing it would seem best to practice with this devise are slow measured inspirations with as complete emptying of the chest as can be comfortably borne, say twelve or fifteen breaths per minute, for as many minutes at a time, three times a day. I believe that a return of the normal resiliency of the emphysematous lung, and the clearing out of the muco-purulent contents of bronchial dilatations, can be favored by the systematic use of this apparatus. The opportunities I have had of trying it decidedly warrant this statement, and I trust any of you who try the Portable Lung Compressor will have the same experience.

BURNS OF THE EYES.

Read to the Kentucky State Medical Society, at Louisville, May 5, 1892.

BY DUDLEY S. REYNOLDS, A.M., M.D.,

Professor of Ophthalmology, Otology, and Medical Jurisprudence, in the Hospital College of Medicine, Medical Department of the Central University of Kentucky; Ophthalmic Surgeon to the Louisville City Hospital.

Burns of the eyes are entitled to especial consideration when they affect the conjunctiva or cornea. They should be classified according to cause, and extent. The ophthalmic surgeon seldom sees the patient whose eyes have been burned by caustic alkalies or acids in time to employ chemical antidotes, yet these are too often neglected by those who have the opportunity of seeing such cases at the moment of occurrence.

In order to draw practical conclusions, it will be necessary to enter somewhat into the details of this part of the subject, and, if I inadvertently indulge in some adverse criticism of my peers, who have written authoritatively upon this subject, I beg that my clinical observations be taken as sufficient warrant for the personal conclusions to which I may invite your attention. Professor Noyes (p. 266) directs attention to the especially destructive agency of the fulminate of mercury, used in percussion caps, cartridges, torpedoes, etc., and which boys are prone to use somewhat recklessly. The great extent to which burns from this source usually penetrate the tissues, may be accounted for, both by the intense explosive force with which the heated particles are driven into the eyes, and the very fine amorphous division of these particles. A deep slough almost invariably follows burns of this kind, and the treatment of the eyes so injured must be conducted with reference to this fact; because, a slough, of any extent, leaves a raw surface, which, by contact with the opposed mucous membrane, will, in time, become adherent. The particles of the fulminate may be accompanied by insoluble matter, and thus produce permanent stains in the cornea.

Quicklime frequently flies into the eyes of plasterers and others engaged in handling it. Its destructive effect is very rapid, and may be partially counteracted by the instantaneous use of vinegar, which converts a portion of the lime into the comparatively harmless acetate; the remaining portion should be removed by instrumental means.

Ammonium, in the form of the caustic liquor, or the carbonate, produces very painful caustic effects when spattered into the eyes, and may be quickly neutralized by a few drops of vinegar, or any mild acid, such as lemon juice.

Nitrate of silver is a dangerous caustic, yet it is almost in constant use by thoughtless surgeons, who imagine the destruction of the surface of the inflamed mucous membrane, in some mysterious way, arrests the inflammation. Knowing full well the destructive action of this potent agent, the surgeon who employs it usually provides himself with a saturated solution of chloride of sodium, and, on applying the silver, he washes off the excess from the surface of the membrane. The coagulum, characterized by the appearance of a white film, is quickly brushed over by a little of the solution of the chloride of sodium, which precipitates the insoluble chloride of silver, leaving a thin eschar to separate by the ordinary process of sloughing. This is no less a burn than that following any other agent producing destruction to the same degree and extent. This process being repeated, involves, of course, the development of a constantly increasing amount of cicatrical tissue, proportioned to the depth and extent of the cauterization.

Sulphate of copper, for nearly half a century in almost constant use, has, like the nitrate of silver, done incalculable damage to the human family, as a caustic. The depth and extent of its action is much less than that of the silver; but it does unmistakably provoke parenchymatous inflammation, when frequently applied to the conjunctiva. It produces likewise such destruction of the corneal epithelium as to create an opaque film which permanently impairs the acuity of vision.

Dr. O'Halloran, in the first chapter of his "Remarks on Acute and Chronic Ophthalmia, and on Remittent Fever," published in London, 1824, speaks of bluestone being used with great efficacy and safety in the treatment of inflammation of the conjunctiva, and states that he had treated hundreds of cases of chronic corneal and conjunctival diseases by the direct application of bluestone to the inflamed membrane. Although it had been used before, yet these remarks, from an eminent army surgeon, led the profession to an indiscriminate use of it as a caustic, which I regret to say has not even yet been abandoned.

Caustic potassium, in the form of concentrated lye, is frequently introduced into the eyes. It is instantaneously destructive, and should be treated at the instant of occurrence by free ablutions of vinegar, followed by a weak lotion of chloride of sodium, to be more particularly explained presently.

Mr. James Dixon, of London (p. 68), in the third edition of "A Treatise on Diseases of the Eye," 1866, and in the Section on Ophthalmic Surgery in Holmes' System of Surgery, 1881, strongly recommends the use of liquor potassium for the destruction of hypertrophied papillæ. He says: "The fluid is dabbed upon the everted lids, so as to be fully brought into contact with the whole surface, and it appears to act by saponifying and dissolving away the hypertrophied tissue." He says it should be used every few days for a period of about six weeks. This explana-

tion by Dr. Dixon, of what he supposes to be the therapeutical action of the caustic, shows exactly how all alkaline caustics act in destroying the conjunctival membrane and the cornea.

Fused metals are, perhaps, of all other causes of accidental burns, the most dangerous and frequently encountered. The momentary treatment should, of course, consist in the removal of the particles of the metal.

Burns by steam, and boiling fluids, have no chemical antidotes, and require, therefore, no chemical treatment at the instant of occurrence.

Now, in general terms, permit me to say, the results of all these and similar injuries are modified, more or less, by early treatment. Those which occur in the hands of the surgeon, as nitrate of silver and sulphate of copper, are happily becoming less frequent. Less than a month ago, however, I was consulted by a brother practitioner in this city in regard to an old gentleman 70 years of age, who had chronic blepharitis, and who had been subjected for a long time to the almost daily application of sulphate of copper, in the hands of a physician. The retrotarsal conjunctiva had become a swollen mass of callous tissue. The corneal epithelium had been destroyed, and with it the underlying anterior elastic layer, throughout the extent of the whole surface, in both eyes. Having become discouraged, he remained home for a few days, when the pain, becoming so intense, he was obliged to summon other medical counsel. The physician called sought my aid in consultation. The treatment suggested consisted in the use of 1 gr. of bichloride of mercury, and ½ oz. of chloride of sodium, to a quart of distilled water, to be used every hour to keep the eyes cleansed from accumulating excretory matter. To relieve tension, 1 gr. of sulphate eserine, dissolved in 1 oz. of distilled water, was directed to be instilled into each eye every four hours. The patient being of the rheumatic diathesis, salicylate of sodium, 10 grs. in a goblet of water, every four hours, was employed. He has made slow but steady recovery; and whereas he was unable to count his fingers when I first saw him, he now goes about alone. The amount of corneal opacity, however, is such that he will not likely be able to see to read again. I will not burden you with a citation of cases of destructive cauterizations by sulphate of copper, and nitrate of silver; but they are, I assure you, sufficiently numerous to invite most earnest inquiry into this terrible and misguided method of treatment. Now, one of the main features I had in view concerns the treatment of every class of burns of the conjunctiva, and the cornea, which are sufficiently intense to cause abrasions of the surface. In no case should the eye be closed, where it is possible to keep it open. The use of oils, and especially of castor oil, so much in favor in the profession, produces, in all cases, an increase of irritation. Whenever any mucous membrane is wounded and it becomes necessary to make local applications to it, the chemical composition of the fluids covering that membrane, in its normal condition, should be considered, in devising the plan of local treatment. Now, as is well known, the conjunctiva in its normal state is constantly bathed in a fluid rich in the chloride of sodium, and so this salt should enter into nearly all local applications designed to remove offending matters. The reason no kind of bandage should be employed is obvious, as its use must necessarily favor the occurrence of attachments between the lids and ball. A case in point is that of Mrs. M., of New Albany, who in some manner got a quantity of boiling water into the left eye. She was opening a can of concentrated lye at the time, and placing her finger in the lye, instantly put this finger into the eye in such a way as to leave large quantities of the crystals lodged between the lower lid and the surface of the ball. A druggist next door used ablutions of vinegar, washing away the excess of potassium, and thus limiting the extent of the burn. The family physician arriving, used castor oil as recommended in the books, and applied the cotton compress. The pain was most excruciating, and he gave hypodermic morphine. After twenty-four hours of this kind of treatment, I was called.

I removed the dressings, washed the eye with a solution, as follows:

℞. Borate of sodium, ℥ijss.
Chloride of sodium, ℥ss.
Distilled water, ℥xij.
Camphor water, ℥jv.

This application relieved the pain almost instantly, and by renewing it every hour, the patient was comparatively comfortable. The next day she was able to visit me at my office. The slough involved a large extent of the lower portion of the cornea, perforating at the inferior margin. Before the period of perforation I directed a solution of eserine, one grain to the ounce of water, dropped into the eye every four hours. Keeping the pupil contracted, prevented the iris flowing into the open wound of the cornea. When the perforation took place the eye was closed with a little cotton wool, and a piece of plaster, just enough cotton being used to keep the plaster from adhering to the eye-lash. In about forty-eight hours the dressing was removed, and the corneal wound found closed; adhesions had taken place between the lower lid and the surface of the ball. Passing a probe under the adhering portion, separation was produced, and a little ointment of yellow oxide of mercury placed between the lid and ball, smoked glasses being used, and the eye left open. In this manner the treatment was carried on until complete cicatrization resulted.

Where burns are so extensive as to make it impossible to prevent adhesions between the lid and ball, these may be greatly modified by leaving the eye open, and daily separating the opposed abraded structures with a probe anointed with a little yellow oxide of mercury ointment.

I will not tire your patience with a further recital of cases; but wish to remark, in conclusion, that no injury to the eye, in the nature of a burn, should be treated by a bandage and compress; yet this plan is recommended by Nettleship, Juler, Carter, Meyer, McNamara, and I believe nearly every writer on Ophthalmic Surgery.

SALICYLATE OF LITHIA.—Dr. Vulpian states that salicylate of lithia is more efficacious than salicylate of soda in cases of acute and progressive subacute articular rheumatism. It also has some effect in chronic cases when a certain number of the joints are still deformed, swollen and painful.

NITRATE OF SILVER FOR WEEPING ECZEMA.—Dr. Leven (*Therap. Gaz.*, Feb. 15, 1892, p. 114), recommends the use of a one per cent. solution of nitrate of silver in obstinate cases of weeping eczema. Several applications are to be made during the day, the part to be covered with a bismuth ointment in the intervals.

ON THE TREATMENT OF DIABETES MELLITUS.

Read before the Kings County Medical Association, April 12, 1892.

BY H. C. RIGGS, M.D.,
OF BROOKLYN, N. Y.

In commencing on this subject a writer in the *Lancet* recently remarked: "Diabetes is a disease full of interest, owing in great part to the lacunæ that still exist in our knowledge of its essential nature."

He is most certainly right in thus assigning imperfection and uncertainty of information as the reason for medical and scientific interest in this matter.

Mooted questions are always those about which medical contest is sharpest and medical interest is keenest, while settled facts are left to stand as landmarks of progress, or as foundations for new structures of experiment and theory.

It is emphatically true that as regards the causes underlying the symptoms classed together under the term diabetes, the "lacunæ" are abnormally large and the interstitial substance of fact is uncomfortably thin.

Numberless theories of causation have been advanced, and probably will continue to be until a satisfactory etiology is established. But whether we consider diabetes as symptomatic of neurotic disturbance, or of pancreatic change, or of absence of a glycolytic ferment in the blood, or of a more or less complete combination of all these conditions, there still remain some fairly well established facts in its pathology upon which to found a reasonable scheme of treatment.

These facts are:—

1. In all cases of diabetes mellitus the power of assimilating carbo-hydrates is defective.

2. This failure of metabolism deprives the body of a corresponding portion of its necessary nutriment and causes the usual local and general signs of marasmus and mal-nutrition.

3. Some or all of the carbo-hydrates taken as food, failing of proper conversion to body use, appear as sugars in the urine, which secretion thus becomes abnormal in amount, gravity and constituents.

4. Many authorities are agreed in considering the mild type of the disease as that in which the sugar excreted is derived directly and solely from the failure of carbo-hydrates ingested to be transformed into glycogen in the body; and the severe type as that in which sugar is excreted even when no carbo-hydrates enter the system, a condition probably due to a general failure of metabolism.

From these few points of comparative certainty, rising from the chaos of inflicting results and divine theories necessarily incident to the investigation and ultimate elucidation of such abstruse chemical and pathological problems, has come a line of treatment, partially rational, partially empirical, which we desire to discuss together this evening.

The treatment of this disease falls naturally under two heads: First, treatment by diet and hygiene; second, treatment by drugs. Of these two divisions the first is by far the most important and the most satisfactory.

Diet.—If, as has been already stated, the ingested carbo-hydrates are the source from which part or all of the excreted sugar comes, the first change indicated in an anti-diabetic regimen, is the taking out of all foods into which starches and sugars enter.

Theoretically this should give the best results, but there are numerous practical reasons why it is rarely advisable or possible to do this. It is to be remembered that diabetes is not often cured. It is a disease greatly relieved by treatment, but the cases where sugar is permanently absent from the urine under unrestricted diet are very few. Hence, the diet upon which the physician puts his patient in the beginning has usually to be continued with more or less stringency for the rest of the patient's life. We also find that complete elimination of carbo-hydrates cuts off from him three great staples of his daily food—bread, and potatoes and sugar. He would gladly do without these for weeks or months if he could be sure of recovery at the end of his deprivation. But to cut himself off forever from these foods is a tax upon the strongest will; and if too great a point is made of it he is apt to give up treatment in disgust.

We have in saccharine a fairly good substitute for sugar, so that loss of that article is easily endured. For bread we have such substitutes as may be made from gluten or almond flour. The taste of such preparations is too pronounced to be well tolerated for any great length of time, though their flavor is hardly to be called unpleasant at the outset. Gluten bread is condemned by some writers on the ground that many specimens contain as high as 20 per cent. of starch—a percentage greater than that found in potatoes.

The opinion seems to be more and more widespread that a small allowance of ordinary bread—1 to 3 ounces a day—keeps the patient satisfied, increases his liking for other foods and yet does no appreciable harm.

All sorts of diet schedules are advocated as giving good results. However they may differ in detail, these all agree in cutting out the carbo-hydrates. The principle is the same in all, but there is every shade of variation in the rigidity of its application. From the skimmed milk treatment of Dankin to the liberal menu of Flint is certainly many degrees of dietetic latitude. The stringency of the diet should always depend upon the results of its enforcement in each individual case. If the patient is well nourished and in good general health, regulations may be very strict for a few weeks until it can be seen what effect the diet is having on the urine and the sugar. But it is certain that no attempt to reduce the excretion of sugar should be persisted in at the expense of the general condition of the patient. For we know that diabetics may live along for years upon a reasonably liberal diet, with the almost constant presence of sugar in their urine, yet very comfortable and in the enjoyment of fair health.

Patients accustomed to alcoholics do not get along well if deprived of them, especially when they are struggling to maintain themselves under the loss of so many accustomed table necessaries. Claret, Hoch, dry Sherry, and wines of that class in reasonable quantities are usually satisfactory.

Such liquors are also of service as tonics in cases where general debility is marked.

But diet has other objects besides the reduction of carbo-hydrates ingested and excreted.

Many patients are in wretched general condition when they come into the doctor's hands. Imperfect

assimilation, intestinal indigestion, the dry exzematous skin, the consuming thirst, the constant annoyance by day, and insomnia by night arising from the polyurea combine to reduce them to a pitiably low state of mind and body. This poor condition calls for the most careful treatment by all means at hand; and none are of greater service than careful diet and hygiene. Patients should be encouraged to use fats and all sorts of foods not too strongly counter indicated by the diabetic state.

Butter, milk, cream, light forms of cheese may be used freely. Cod liver oil, which in this condition is to be regarded as a food rather than as a drug, is of great service in many cases. If it is desired to give it in emulsion, the sugar usually present in such preparations may be replaced by a corresponding quantity of saccharine. Patients often feel that, because they are restricted in certain directions they must be careful in all their eating. Hence, they need encouragement and special direction, not only as to what they may not eat, but also as to what they may enjoy.

There are no cases where attention to detail, and accurate knowledge of all that constitutes the round of daily life, is more important to patient and practitioner. For while such care is the chief factor in any successful treatment of this disease, it serves another almost equally important purpose in offering the only reliable data upon which to base a correct prognosis. If, now, under careful diet and hygiene, persisted in for two or three weeks the general health of the patient improves and the diabetic symptoms are non-progressive or on the decline, there is certainly cause for hope that the disease is controlled by the usual measures; while a case which shows little or no improvement under diet alone, offers slight prospect of success by any other means at our disposal.

In order that our knowledge of the patient's condition may be perfect, an absolutely thorough physical examination should be made preliminary to all treatment. The amount of urine passed in each twenty-four hours should be measured for several days, and its chemical and physical properties recorded. Such a series of tests will let us know the general run of the disease, uninfluenced by treatment of any kind.

With this preliminary knowledge attained, the reduction of the diet should begin at once. Sugar may be cut off absolutely at the start, and saccharine, in pellets for table use, and in solution for cooking purposes, substituted.

Bread should be reduced gradually, as we can offer nothing very satisfactory in its place. If it is intended finally to use gluten or almond preparations, the ordinary bread given in the course of reduction should be toasted, as this makes the transition to bread substitutes much easier. The effect of these measures must be carefully noted, not only upon the quantity and character of the urine, but upon the general condition of the patient. If, after a few weeks, the sugar entirely disappears, the diet may be gradually liberalized, the excluded articles being added in small quantities, one by one, just keeping within the limit where sugar reappears in the urine. By this constant experimentation a dietary may be established restricted enough to relieve the diabetic symptoms, yet liberal enough to build up the patient's general health, and do away with a large share of the annoyance of a regulated diet.

The distressing thirst which is often present impels the patient to drink large quantities of fluids. It does not seem necessary to require him to give these up to any extent disagreeable to himself, as the treatment of the case will usually relieve the thirst and dryness of the mouth, thus causing a natural decrease in the desire for any excessive amounts. Since certain mineral waters, like Carlsbad and Vichy, are considered of actual medicinal value in these cases, it is well to let the patient use them in place of ordinary drinking-water.

It is agreed on all hands that proper hygienic measures are of great value to diabetics. It has been shown experimentally that the glycogenic function is performed more rapidly and more completely when the subject is made to undergo reasonable exercise. This being so, it is evident that diabetic patients who are able to be about at all, should be encouraged to take all the out of door exercise possible. The amount of exercise insisted upon must not be sufficient to weary the patient excessively, as overexertion tends to reduce the powers of assimilation and to increase body waste, both of which results are directly opposed to the objects of the treatment. And as these patients are peculiarly liable to diseases of the respiratory organs, they should not expose themselves too much for the sake of sufficient exercise. When the weather is unsuitable for them to venture out, they may employ some simple gymnastics as a substitute for the out of door work. The slight fatigue from indulgence in proper exercise will often relieve the insomnia which sometimes persists even after the symptoms that caused it are under control, and thus enable us to dispense with more direct and less desirable remedies. In order to avoid the ill effects of sudden changes of temperature upon them, these patients should be advised to give unusual care to the protection of the skin, and to the increase of its activity. Woolen undergarments should be worn the year through, changing their weight but not their material with the season.

As tending further to reduce sensitiveness to climatic change, and to increase the activity of the skin and of the circulation, various forms of baths and of massage are useful.

Change of climate and scene, including visits to some American or foreign spa, is of service in suitable cases. A considerable degree of physical weakness or of disinclination to travel should serve as a bar to any recommendation of this form of treatment. For in undertaking such a journey patients must leave the comforts of their own homes and live at hotels where their special articles of diet are hard to obtain, and where the simplest requirements of invalidism are by no means easy to meet. Furthermore, the great mass of experience seems to show that only in certain classes of diabetic cases are mineral waters of much use, and to condemn the employment of this method as a routine practice.

It is peculiarly fortunate that diabetes mellitus is so largely a disease of the better classes, for such a regimen as is here outlined can hardly be carried out among the poor with any degree of thoroughness or any fair prospect of success.

Statistics show that, unlike many of the severer affections, the best results of treatment of diabetes are attained in private cases as opposed to those in the care of hospitals or public institutions of any kind. Special cookery carried to an extent sufficient

to give variety and satisfaction to such patients, is practically beyond the province of a hospital of any grade.

In private cases the physician's time may be well spent in giving attention to all details of diet and hygiene. For every element of variety that can be allowed makes the necessary deprivations more endurable and the successful continuation of treatment more probable. Numerous receipt books are published, containing many ingenious combinations to vary the monotony of a diabetic's dietary. Some one of these can easily be put in the hands of those providing for the patient's table.

But even with the best regimen and most careful attention to detail, there are many cases in which diabetic symptoms still persist to a dangerous degree. In such cases there are certain drugs which are of service in more fully attaining the ends aimed at by diet and hygiene, and in meeting some of the special symptoms unrelieved by other means. Merely to name the remedies which have been recommended for this disease would prove a weariness to the flesh. And unfortunately this lengthy catalogue does not serve to show us the richness of therapeutic armament from almost any portion of which we may expect success, but rather to emphasize and make more painfully evident the more or less complete failure of every item on the list. The reasons for so formidable an array are easily understood.

Empiricism, while often useful, is rarely accurate. To this fact is attributable the presence of many drugs in the list, whose claim to usefulness is not supported by any adequate clinical testimony.

Another large but useless section of our catalogue is filled with the names of drugs which have been recommended either upon some purely theoretical hypothesis as to their action, or upon some erroneous theory regarding the cause of diabetes. In regard to this entire class we cannot do better than to follow Neimeyer's advice as set forth in his work on "Practical Medicine:" "We shall not discuss procedures," he says, "such as that whose object is to hinder the conversion of amylum into sugar by exhibition of acids, or that in which nitrogen is to be supplied to the system by administering ammonia; or in which it is sought to allay the irritation of the kidneys by means of opium; or to act upon the liver by means of ox-gall or gallic acid; or any of the other purely theoretical suggestions." "We are indebted to Griesinger for a positive experimental demonstration of the inefficiency, and in some cases even, the detrimental character of some of these modes of treatment, such as that by alcohol, rennet, and yeast sugar—intended to supply the place of that lost from the blood."

If, then, in the treatment of diabetes we accept the use of special remedies called for by the association with it of some particular diathetic tendency—as to gout or rheumatism, we find the list of serviceable drugs practically reduced to four, opium, arsenic, strychnine and alkalis.

The order of preference for these varies with different writers. But some three out of the four are spoken of as the best remedies at our command by almost every authority accessible to me.

Of none of the drugs mentioned have we any satisfactory explanation as to its precise method of action upon the causes or the manifestations of the diabetic condition. But in regard to all we have undoubted clinical testimony that in a large proportion of cases they are of service in relieving the symptoms present.

As to the dosage of these drugs in general, it may be said that the method which starts with small initiatory doses, gradually increasing until the symptoms disappear or until the limit of toleration is reached, seems better and safer than any other. The results from it are good, and certainly more agreeable for the time being, than those attained by an abrupt administration of large doses beginning well up toward the physiological limit and rising rapidly to it.

Alkaline Treatment.—Although the theoretical reasons which originally led to the use of this method have long since been shown to be unsatisfactory, high authorities claim good results in many cases. In fact, Flint states in his "Practice of Medicine" that he has "seen the good effect apparently of this treatment when there was not much restriction in diet."

Trousseau's method was to begin with a drachm daily of bicarbonate of soda, increasing gradually to three or four drachms a day. In order to avoid the bad effects of super-alkalinity he gave the remedy only ten days in succession in each month.

Alkalis may also be administered by means of certain spring waters, notably these of Carlsbad and Vichy. The use of these waters at home either bottled at the springs or artificially compounded, seems of doubtful service, as an exclusive method of treatment. Hence it is fair to assume that the change of climate and mode of life, the hygienic surroundings and the inducements to exercise and pleasure add a very large share to the success of treatment by this plan.

It is a common practice to recommend waters of this class for table use even when no real treatment by this plan is intended. It is possible that in doing this we may be giving our patients more than a pleasant beverage.

Opium Treatment.—In spite of Niemeyer's placing this drug, in the passage quoted above, among the obsolete theoretical remedies in the treatment of diabetes, it has a very wide repute and is regarded as our chief therapeutic reliance by many of the best authorities. Whether or not we rely upon it to lessen sugar excreted, it certainly is of use in relieving the thirst and dry condition of the skin. Opium itself may be given in some form, or preferably codeia in single large daily doses, or in smaller divided doses. The chief objections to its use are the unpleasant cerebral and gastro-intestinal symptoms which may occur, and above all the danger of the opium habit, especially as the drug must of necessity be given for some time. Codeia is in most cases less open to both these objections than is any preparation of opium itself, and the results from its use seem as satisfactory.

Strychnine Treatment.—This is also a frequently employed and highly praised method. In certain cases diabetic symptoms seem to be markedly relieved by it. The drug is usually administered in small repeated doses which may be conveniently timed to serve as a bitter tonic before meals. If good effects are not noted when fairly small doses are employed, there is little reason to expect doses more nearly reaching the physiological limit to be of greater use than the smaller ones.

Arsenic Treatment.—In the employment of this

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method arsenious acid itself may be used in pill form. But it is probably better to use either the liquid potassii arsenitis, or the preparation of bromide of arsenic known as Clemen's solution. The strength of these two solutions being identical, the dose of either is the same, and is preferably small and frequently repeated.

Earlier in this paper it was remarked as a fortunate circumstance that diabetes is so largely a disease of the better classes, because of the necessary elaborateness of its requirements for treatment.

From the standpoint of clinical study and accurate observation of its results this fact becomes a misfortune rather than a benefit. For private patients are not the ones upon whom we can readily conduct clinical experiments, or comparative study as to the effect of series of remedies. Hence the recommendation of one drug above another as an active agent in the relief of diabetic symptoms, if based upon experience in private cases, is justly open to serious questioning. One writer has gone so far as to say that: "no credit should be given to the claims of any drug, based upon the bare assertion that it has benefited or cured a case of diabetes in private practice." Hence it seems hardly worth while to make any recommendation in this paper tending to assert the superiority above the rest of any one of the four drugs which have been mentioned as likely to be of service in these cases. It is hoped that the realization of the facts may serve to accentuate in our minds the paramount importance of the dietetic and hygienic part of the treatment, resting as it does upon a thoroughly sound rational basis, as compared with the experimental and unreliable empiricism of the materia medica as applied to this disease.

In closing this paper allow me to say that it has been presented not at all as an attempt at a discussion of the subject in hand. It is offered merely in the effort to bring together in order those points in the treatment of diabetes which are the best ascertained and most universally accepted. And it is the hope of the writer that it may serve as the nucleus about which may gather individual experience of cases and individual methods for the solution of the complicated and interesting therapeutic problems presented by the treatment of diabetes mellitus.

SOCIETY PROCEEDINGS.

NEW YORK ACADEMY OF MEDICINE.

Section on Orthopedic Surgery.

Stated Meeting, April 15, 1892.

HENRY LING TAYLOR, M.D., CHAIRMAN.

(*Concluded from page 650.*)

Discussion.

Dr. L. A. Sayre said that the paper covered too broad a field to admit of discussing it in detail, but in general, the author had expressed his own views most accurately.

Dr. John Ridlon did not consider that the element of time was very important, except in those exceptional cases where it was a difference between a few weeks and several years. On the principle of leverage, he had been able to reduce the deformity in some of the very worst cases of hip-joint disease in a few hours, or a few days, as safely by mechanical means, as by operation. It was only the question between a few days following an operation, and a few days more with mechanical treatment, and under these circumstances, we should not think of doing a cutting operation. In all cases of disease of the hip or of the knee, leverage reduction will accomplish the result as well as an operation.

Dr. S. Ketch said that while theoretically the orthopedic surgeon should be a good general operating surgeon, in practice, he is not frequently called upon to perform operations, and hence could not be expected to be as skilful manually as surgeons who are constantly operating; and on this account, a natural division of labor was founded. He inferred from the paper that the author must have met with a class of cases in which it was unusually difficult to reduce the flexion, for, as a rule, there was no special difficulty about reducing this deformity, provided sufficient time were allowed. Forcible leverage or stretching adds an unnecessary risk, as there is no way of accurately gauging the amount of force employed, and hence there is danger of inflicting traumatism which will result in lengthening the course of the disease, and causing a speedy return of the deformity.

Dr. W. R. Townsend thought there was one class of cases in which mistakes are likely to follow mechanical treatment, but which yield brilliant results after operation, viz.: the so-called periarticular abscesses. Such an abscess, situated outside of the hip-joint, often gives rise to symptoms simulating hip disease, and if not treated by operation, there is great danger of the abscess opening into the joint.

Dr. L. W. Hubbard enforced what Dr. Ketch had said about the treatment of deformity in the early stages, and he had found in his own experience, that the reduction was usually quite rapid. He had never seen a case of hip disease in any stage, where there was motion, in which the deformity could not be reduced by position and traction in a short time, usually not over six to eight weeks. He could not see the force of the remarks just made about periarticular abscesses, for they are just as likely to open externally as internally, and, as a rule, they heal quickly without operation.

Dr. H. W. Berg said that had it not been for careful attention to mechanical details, such important orthopedic appliances as the plaster jacket, the long splint, and the Taylor brace would not have been known, yet orthopedic surgery should be broad enough to include within its scope both mechanical and operative treatment.

Dr. N. M. Shaffer thought that many of the conditions described should necessarily come under the care of the general, and not the orthopedic surgeon. We are all agreed, however, that the orthopedic surgeon should be competent to perform all the operations of general surgery, just as he should be able to diagnosticate typhoid fever or the exanthemata, etc. But it did not follow because the orthopedist is prepared to perform these operations, or to diagnosticate the diseases coming under the care of the physician, that he should do either the one or the other, unless circumstances made it absolutely necessary for him to do so. Dr. Shaffer would have orthopedic surgeons devote themselves to the science and art of the mechanical treatment of deformities, using operative surgery as an adjunct to the mechanical work, rather than, as many of us are prone to do, make the mechanical part a sort of kite-tail to operative surgery. There is so much to be learned, and so much to be developed in the continually broadening field of mechanical treatment, that there seems to be no excuse for the present tendency of orthopedic surgery to invade the well recognized boundaries of general surgery. The tendency ought to be the other way, if orthopedic surgery is to succeed as a specialty.

Dr. R. H. Sayre said that orthopedic surgeons should be competent to take charge of a case from the beginning to the end, whether it required mechanical or operative treatment. Limiting orthopedic surgery to the use of apparatus is like limiting the oculist to the application of glasses for the correction of refractive errors.

Dr. Royal Whitman said that he was unable to see the force or the application of Dr. Shaffer's remarks on the paper of the evening. A specialist was so by reason of the class of cases he treated, not because of the means he employed. The broadening field for this specialty was the study of the etiology, development and cure of deformities; the study of the course, complications and ultimate results of joint diseases. Treatment must vary with the social environment of the patient, the severity and duration of the disease or deformity, and the most successful surgeon was the one who could best adapt the means to the end to be accomplished.

Early diagnosis and efficient treatment would, to a great extent, obviate the necessity for operation, and it was proper for one who could select his cases, to devote himself exclusively to mechanical treatment. On the other hand, many chronic and desperate cases of disease and deformity were brought to the institution with which he was connected.

These patients would be neglected at home, and rejected at general hospitals. Mechanical treatment alone in this class was ineffective, unless supplemented by operation, which was often a necessary and a life-saving procedure. This exaltation of mechanics was opposed to the best interests of the patient, since, in the minds of many, mechanical and operative treatment, which are mutually dependent, were contrasted and opposed to one another; thus patients, on the one hand, were subjected to early and unnecessary operation, and afterwards neglected, and on the other, the benefits of legitimate surgical interference were not appreciated. Why a broader and, as it seemed to him, more rational view of the subject, need prevent the study and appreciation of mechanical supports, was not apparent. Believing that disease was to be treated in its entirety, and not in phases, he was unable to accept the limitation that Dr. Shaffer would impose on the future development of orthopedic surgery.

The Chairman said that if the orthopedic surgeon must be so familiar with operative methods, as undoubtedly he must, he must also be a competent neurologist, for just as serious mistakes would follow ignorance of this subject, as ignorance of operative surgery. Certain limitations are naturally placed upon one's practice, depending upon whether it is private, or dispensary, or hospital practice, for, in the latter, it is often not the best ultimate result, but the best that can be obtained within a limited time, or with limited means, that must decide the plan of treatment to be adopted. This author's directions in regard to the reduction of the deformity in joint disease, and especially in certain stages of hip disease, while perhaps successful with him, would be exceedingly dangerous if followed by the general practitioner.

Dr. Gibney, in closing the discussion, said that the great drawback to letting the general surgeon operate upon our cases is that we frequently lose sight of them, and they are accordingly allowed to go without the use of protective apparatus, and that careful treatment after operation which is necessary in all these cases to insure a good result.

Medical and Chirurgical State Faculty of Maryland.

Ninety-fourth Annual Session, held at the Hall of the Faculty, Baltimore, April 26, 27, 28 and 29, 1892.

Dr. Wm. H. Welch, President, in the Chair. Drs. G. L Taneyhill, R. T. Wilson and Wm. B. Canfield, Secretaries.

Dr. Wm. H. Welch delivered the President's Address, on the subject:

ACUTE LOBAR PNEUMONIA IN THE LIGHT OF BACTERIOLOGICAL INVESTIGATION.

The organism which is now generally conceded to be the cause of acute lobar pneumonia has had a variety of names, but the best is, in my opinion, the diplococcus pneumoniæ. It was discovered in September, 1880, by Sternberg, in his saliva, and was next described in December of the same year by Pasteur, who came on it in inoculating a rabbit with the saliva of a child dead with hydrophobia. In 1885, Sternberg showed the identity of the saliva organism and the diplococcus pneumoniæ, and in July, 1887, A. Fraenkel investigated the same organism. At this time there was confusion between the diplococcus pneumoniæ and the pneumococcus of Friedländer. This latter is a bacillus, the pneumo-bacillus of Friedländer; it is a totally different species, and probably has nothing to do with the causation of acute lobar pneumonia. Since this time the literature of the subject has increased wonderfully, and I shall not weary you by attempting to trace the subject from its beginning to the present time.

The pneumococcus is an organism, lancet-shaped or oval, with one end more pointed than the other, and it is called diplococcus lanceolatus from this shape. It is very variable; while the oval shape is the most common, it is not characteristic, and it is often spherical. It is usually found in pairs, two together; hence the name diplococcus. It may also occur in short chains, and occasionally in long chains. These long chains may be indistinguishable morphologically from the streptococcus, and may be even in colonies indistinguishable by our present known methods of culture. If the pneumococcus can occur under certain conditions in the form of chains, how can we decide whether it is the pneumococcus or a form of the streptococcus? This is the interesting point at present. This difficulty we are not likely to encounter in acute lobar pneumonia.

A characteristic point of difference is the presence of capsules around the pneumonia organism. These capsules are sometimes easily demonstrable, and sometimes not. The capsules were for a long time not easy to stain, but I have at last come upon a method which yields absolutely positive results in my hands. The presence of the capsule pertains to the organism only in relation to the tissues and organs of the body, and the capsule is not demonstrable in organisms from cultures. The organism dies in large numbers in the body. In the exudate of pneumonia it is astonishing to find how many of these organisms are present. The three distinguishable points of the pneumococcus are expressed in the name, pneumococcus diplococcus lanceolatus capsulatus. In cultures the pneumococcus grows best at a temperature approaching the body temperature. For this reason gelatine is not so good a medium, as it melts at a low temperature, and this is one reason why Friedländer failed to find the organism, because he used gelatine. In cultures they will not grow, usually, at a temperature below 65° F., but when they have been transplanted they will grow at lower temperatures. They grow on almost all of our nutrient media; nevertheless, there is no other known organism that possesses such a wide range of growth, that is so particular as to the exact composition of the medium on which it grows as the pneumococcus. The medium should always be carefully tested before, for a very little thing wrong in the composition of the nutrient medium will lead to a failure in the culture of the organism. The properties of the medium which are best adapted for the growth of the organism are, first, its reaction. It should be slightly alkaline, and it should be made up of the right sort of peptones. Merck's peptones are the best. These two points can be watched with considerable regularity, but the difference which the different kinds of beef make in the cultures is very hard to understand.

It is not necessary to describe the growth of the organism. It grows best at a high temperature, and in an incubator at body temperature. It does not liquefy gelatine, and grows preferably in agar-agar. Its growth in agar-agar is not easy to see. It coagulates milk, and grows as well with as without oxygen. As a rule, the more virulent the organism, the more difficult to cultivate. A very important characteristic is its short vitality. No other organism dies so easily. It dies in less than a week, and has died three days after it was planted, and after two weeks it is non-virulent. The best culture medium is a mixture of agar-agar and gelatine. It is impossible to keep the virulence of the organism for any length of time. The disease-producing power or pathological power of the organism is very short and generally variable, and some have no virulence. Some kill rabbits within twenty-four hours. The pathological effects of the organism depend on four different factors: 1, the animal itself; 2, the degree of virulence of the organism; 3, the number of bacteria which get into the body; 4, the site of the inoculation.

The animals which are most susceptible are rabbits and mice. Mice are more apt to die with material containing the pneumococcus than rabbits, the latter not infrequently surviving the inoculation. Guinea pigs are relatively insusceptible. There is a difference in different species, and in different animals of the same species. The number of bacteria inoculated makes a difference, and from this there is a

variability in the pathological effects. This is not so true with the virulent bacteria as with the less virulent. We can produce different effects on animals with the size of the dose. The site of the inoculation is also very important. The animals usually die sooner when the organisms are injected directly into the blood and peritoneum, and they live longer when the organisms are injected subcutaneously.

The symptoms are fever, diarrhœa and albuminuria. The elevation of temperature is almost constant. The organisms invade the blood shortly before death, and it is the poisonous products of the organisms in the blood that cause death. The urine of rabbits is normally albuminous, but slight in amount. In this case the albumen is very abundant. There is acute pulmonary œdema, which may also cause death. These are the usual pathological effects of the organism. In the type more characteristic of the acute symptoms, the animal dies within forty-eight hours, the spleen is enlarged, there are necrotic foci in the liver. It is interesting to note that these necrotic foci have also been found in the liver of human beings who have died of pneumonia. There is an alteration in the kidneys in the majority of cases, and a filling up of the renal glomeruli with fibrin, making a sort of fibrin thrombosis. This has also been demonstrated in human beings. The heart is nearly always fatty, and the lungs œdematous.

A second type of the disease is when the animal lives from five to ten days, and when there is a very extensive fibropurulent exudate along the subcutaneous abdominal walls. In this case no organisms can be found in the body, and the exudation along the abdominal walls where the inoculation was done prevents the organism from getting into the body —evidently a case where nature throws out a protective wall to keep the invading organisms out. In this case there is a tendency to an inflammation of the serous membranes. There is little septicæmia, and while the pneumococcus is in the subcutaneous tissues there is no organism in the body or blood.

In a third type of the disease there is a formation of localized abscesses. The diplococcus pneumoniæ is a more or less pyogenic organism. These abscesses may be large or small, but they do not usually cause the death of the animal.

A final form of the disease is that in which the animal has died not from infection, but from intoxication. In one case an inoculated rabbit died in two days, and a second rabbit inoculated from the first died in sixteen days. In the first animal the organisms were found in abundance, but in the second animal only empty capsules of the organism were found. This rabbit had died from intoxication; was killed by a poison left by the organisms, which had all disappeared. This is called pneumotoxine. This is a chemical poison produced from the pneumococcus. This poison is not a ptomaine. It is not a crystallizable, alkaloidal substance, but it is albuminous and proteid. It has never been isolated in a pure state. The power of these poisons is very great, and the local action is due to them. This is probably the cause of the filling up of the lungs with exudate.

We can render animals immune. Inoculation with a small quantity of a virulent culture, with a larger quantity of a weaker culture, or with the substance itself, will protect the animals for a time or make them immune. The protection of the animals is due to the formation of a special substance which is undoubtedly in the blood. It is called the immunity-producing substance.

The diplococcus pneumoniæ is the only organism which is constantly present in this disease. We can reproduce the disease in animals. It is sufficient to cause an exudate in the body. This new substance is in the blood at or after the crisis, and was not there before the crisis. This has been proved in human beings. Is it the sole cause of pneumonia? This is *sub judice*. In my mind, I think it is the only cause. It is unreasonable to think that a disease which runs a course so universally the same can have several causes. There are two arguments against the diplococcus. One is the finding of other organisms in the disease, and the other is the failure to find the diplococcus. Other organisms do get in the lung, but that is natural.

It is not easy to find the organism. We may use several ways: 1. Examine cover slips. 2. Always inoculate two animals, a rabbit and a mouse. 3. Make cultures. Many have relied on only one of these procedures. Negative cases may occur. The origin of the disease is hard to name. There may be two modes of infection. The organism is widely distributed. It is frequently found in the mouth of healthy individuals (about 20 per cent.) and in those not having pneumonia. Lowered vitality may invite an attack of the disease. Epidemics show that infection must sometimes take place from without. House epidemics occur and here the disease is very limited. There may be sthenic and an asthenic pneumonia, as there may be an infective and a toxic pneumonia. The organisms possess both properties. The inflammatory exudate is a protection. The pneumonia itself is not the danger. The exudate keeps the organisms out of the body. The general symptoms, the action on the heart and kidneys and the nervous system, these we must think of as due to the specific poison. The crisis is coincident with the appearance in the blood of a new substance which kills the disease if the patient recovers. Up to this time the poison has been in the blood, but the appearance in the blood of this antidotal substance causes the crisis and the poison is no longer found there. The crisis does not cause any change in the lungs. They are just as congested and hepatized after the crisis as before. It is the substance in the blood.

Treatment.—The general treatment is altogether too mechanical. It was supposed that the congested lungs offered too great resistance to the weak heart and the object of clearing up the lungs was to relieve the heart and help the breathing. It has been shown experimentally by tying off a part of the lung in a rabbit that this mechanical obstruction is not sufficient to produce the effects of pneumonia. The question is, can the immunity-producing substance be utilized to treat this disease? Experiments are now in progress to answer this question. They are not to be reported on yet. We have an opening up of a new subject that cannot fail to be of great use to medicine. The study of the chemical substances in the body and their use in preventing and causing disease is a very broad question. I believe we are on the verge of a new discovery.

Section on Surgery.

Dr. Robert W. Johnson read a paper entitled

THE SURGICAL CARE OF WORKMEN,

in which he spoke of the importance of surgery as applied to the working class. He discussed the operations principally of the extremities, and urged the operations which would give strength rather than beauty, and based his experience on a large number of cases seen at the Maryland Steel Company.

Dr. Randolph Winslow objected to some of the amputations on the ground that amputations higher up would be better and would allow the adjustment of an artificial member.

Dr. Johnson replied that most of the men were not in a condition to purchase expensive artificial members.

Section on Practice.

Dr. C. O'Donovan read a paper entitled

MENINGITIS IN CHILDREN FROM A CLINICAL STANDPOINT.

It was early called hydrocephalus from the serous effusion, but this is only a part of the disease.

The two kinds are (1), simple, and (2), tubercular. This is the simplest classification, but further divisions have been made. The diplococcus pneunomiæ has been found in the serous membranes in this disease. The simple is the more frequent form under two years of age, from which time to puberty the tubercular predominates. Simple primary meningitis does not occur according to some, and does according to others. It usually follows some diseases. The diagnosis is not easy, and is often only made after death. The history of the disease is familiar to many, but it is so often not recognized until too late. He related a case in which the disease came from an injury and he did not recognize it.

1. Meningitis is of frequent occurrence and is insidious in its onset.

2. It is most amenable to treatment at the beginning. Cases do not recover late. Tubercular meningitis will not yield to treatment.

3. The treatment is quiet, blood letting, free purgation, ice caps, bromides and iodides, and good attention. Even in this case recovery is not frequent.

SECTION ON GYNECOLOGY AND OBSTETRICS.

Dr. L. E. Neale read a paper entitled

NOTES ON THE USE OF CHLOROFORM, ERGOT AND THE DOUCHE IN OBSTETRIC PRACTICE.

He did not believe in the too frequent use of chloroform, but occasionally did use it to the point of obstetric analgesia. He used it in all operations. He used ergot when the uterus was empty. He was not an ardent advocate of the douche.

Dr. J. E. Michael thought that Dr. Neale had struck the proper keynote. The obstetrician does as a rule use chloroform, and there must be a reason for this. Fordyce Barker had written a very good paper on this subject. Within the uterus it has a bad effect on the child and promotes *post partum* hæmorrhage. The attainment of obstetric anæsthesia is very important, for we must recognize that there is a surgical and obstetrical anæsthesia. In some cases it may be necessary to have a surgical anæsthesia, but it should not be used as a rule. Ergot as generally used does more harm than good.

Dr. P. C. Williams did not think that the abuse of a good article was a good argument against its legitimate use. He agreed with both speakers. It is much easier for a man to argue on this question than for a woman. He did not think that chloroform increased the difficulties of labor, and it diminished the activity of the pain. He has had cases where the chloroform helped the child to be delivered.

Dr. Hunter Robb agrees with Dr. Neale, and does not think we should use chloroform so often except in operations. He did not think it was well to use antiseptic douches in the uterus or even in the vagina. It causes a necrosis of the lining membranes of the genitalia and increased the chances of infection. Keep the external genitalia as clean as you can.

Dr. Thomas Opie agreed with Dr. Neale and thought that as a rule, all anæsthetics were dangerous. Morphia and chloral allay pain more satisfactorily than chloroform, and when chloroform is once given it must be kept up for a long time. It lengthens the intervals between the pains, but there is a much greater danger of hæmorrhage. When there is anything in the cavity of the uterus, ergot is contra-indicated. When it is empty we may use it. He does not like the douche.

Dr. A. B. Price had used the carbolic acid solutions as injections into the uterus. He did like ergot when there was danger of *post partum* hæmorrhage before removing the placenta.

Dr. W. E. Moseley had never seen reason to regret the use of the intra-vaginal douche. It is certainly cleansing and what is also very important, it makes the patient more comfortable.

Dr. Wilmer Brinton was surprised that some used ergot in the third stage of labor in such a routine way.

Dr. R. P. H. Ellis said if we want to give ergot to be effective, we should always give it hypodermically. He did this regularly. When he gave chloroform, he had reason to fear hæmorrhage.

Dr. Hunter Robb read a paper entitled

THE USE OF MORPHIA AND OTHER STRONG ANALGESICS IN GYNECOLOGICAL PRACTICE.

The general practitioner is apt to give morphia when certain gynecological troubles are not relieved easily, and even some gynecologists resorted to its use in pelvic inflammation where there is great pain, myomata and various other painful disorders. In some cases he advocated opening the abdomen and breaking up the adhesions which soon removed the pain and did away with the use of morphia. Avoid morphia, but if it must be used even for a short time do not let the patient know what she is taking. Use substitutes when possible.

Dr. A. K. Bond had noticed articles on this subject in the journals and thought it was very important to find good substitutes. He had been giving aconite a thorough test of late and found it a very valuable remedy. If we write our prescriptions for morphia and such drugs, the people soon learn to read them and know what they are taking. He always took his morphia and left it with the patient when necessary.

Dr. Jesse Downey put great reliance on his hypodermic syringe, and would give up the practice of medicine without it.

Dr. P. C. Williams related a case of "A Case of Extra-Uterine Pregnancy," and a case of "Lateral Flexion of the Pregnant Uterus Simulating Extra-Uterine Pregnancy," which were discussed by Drs. Neale and Michael.

Dr. J. H. Kennedy read a paper on "Abortion—Its Effects when Not Treated at All, or Treated on the Expectant Plan."

SECTION ON MATERIA MEDICA AND CHEMISTRY.

Dr. J. T. Smith read a paper entitled

THE SPECIFIC ACTION OF DRUGS,

in which he spoke of the meaning of the word specific and the desire to find specific remedies for all diseases. There is a great field for bacteriology. The chemistry of the body is very important. Bacteria of the intestines are more accessible and easily classed.

Dr. Wm. H. Welch thought the paper was very suggestive. He referred to the work done in Koch's laboratory. We have in our own bodies agents which are active poisons, and we have also their antidotes. The peptones, for example, are an active poison when inoculated into some animals, and yet they do not harm us, which shows that we must have within us an antidote which protects us. It has been thought from some experiments performed in extirpating the thyroid gland, that that gland acts as an antidote to some body poisons. This bears some relation to the condition known as cachexia strumipriva. An animal always dies when this gland is removed and the removal of other glands may have a similar result. If we cultivate certain bacilli, as the tetanus bacilli, on a culture medium made of the thyroid gland, it does not act as a poison as it does when cultivated on other media.

SECTION ON SANITARY SCIENCE.

Dr. E. F. Cordell read a paper entitled "The Necessity of

a Public Disinfecting Station in Baltimore; and the Use of Steam Under Pressure as a Disinfectant."

Dr. Wm. H. Welch thought that the subject was of great practical importance, and that steam was the great disinfectant. Sulphur is often too much relied on. He told the story of how Koch was fumigated with sulphur fumes on his way from Italy to Germany, and how a cholera culture which he had in his pocket was not at all affected by the sulphur. Sulphur may destroy the germs of small-pox, measles, scarlet fever, but we know nothing of the germs which cause these diseases.

Dr. C. Birnie did not think much of sulphur as a disinfectant.

Dr. W. Frank Hines said that sulphur was better when used in a moist atmosphere. In most diseases it was best to try to kill the germs before they got about abroad. We should disinfect the patient as well as the attendants, and, where feasible, burn everything possible.

Dr. Wm. H. Welch did not think that sulphur fumigation was useless against small-pox, etc., and he referred to the careful work of Dr. Cyrus Edson, of New York. He used other methods,and thought that whitewash was a disinfectant of no mean power, and heat in all forms was effective. It is hard to say how sulphur acts, but it is necessary to have moisture, for in a dry atmosphere it is almost useless, and delicate fabrics are damaged by the dry fumes.

Dr. J. H. Branham read a paper on "A Consideration of Some Irregular Positions of the Child in Utero, with Illustrative Cases."

Dr. W. B. Platt read a paper entitled "Inspection of Milk and Dairies," in which he said that in a city like Baltimore, of 500,000 inhabitants, there were 50,000 children under four years of age who depended on milch cows' milk as a food. It was, therefore, important that an inspection of this food should be made. The principal dangers of conveying disease through milk were tuberculosis, typhoid fever and scarlet fever.

Dr. J. C. Henneter then read two papers entitled "Concerning the Significance of Phagocytosis" and "Experiments on the Anabolic Function of the Vagus."

SECTION PSYCHOLOGY AND MEDICAL JURISPRUDENCE.

Dr. Henry M. Hurd then read a very interesting paper on

POST-FEBRILE INSANITY.

This was not a new topic. It was first spoken of in 1845. There are many varieties, but one brain condition, which bears no relation to the disease which produces it. These insanities after acute diseases are alike in nature. The name, confusional insanity, was suggested to cover all the kinds of insanity. The three principal forms are those from shock, from specific poisons, and from anæmia, nervous exhaustion, etc.

Shock is a very frequent cause of this post-febrile insanity. It may come from childbirth, surgical operations, etc. There may be a fixed delirium.

Insanity may also come from the specific poisons, from the fevers, pneumonia, uræmic poisoning, influenza, belladonna, iodoform, chronic alcoholic poisoning, and puerperal fever. The poison acts on the central nervous system. These poisons produce an active delirium, which is self-limited, and stops when the drug is stopped.

The third cause is from anæmia and nervous exhaustion. There are delusions of fear and apprehension, perversions of taste, progressive stupidity, and general mental impairment. This may come from typhoid fever. The actual predisposing causes of the delirium are not clearly known. Fixed ideas are impressed on the brain, and cause this insanity. He gave three illustrative cases, from which it was evident that we are not justified in giving any one cause to the whole class.

Out of 23 cases, 11 came from typhoid fever; in 4 the insanity was in the form of delirium, and in 7 it came after the fever was over; 8 recovered, 2 died, and 1 did not recover; 9 of the causes were surgical. Insanity may originate from delirium, and in other cases heredity plays an important part. General practitioners do not see many cases, and are apt to give a good prognosis, while alienists see many cases, and give a bad prognosis, because they see so many fail to recover which the general practitioner loses sight of. Some, too, are called cured cases which have enfeebled minds.

Prolonged delirium adds greatly to the gravity of insanity. For this reason, the Brand treatment of typhoid fever to reduce the fever should be advocated. Few patients treated in this way have post-febrile insanity from typhoid fever. It removes a factor of the danger. Rest is also very important after this disease. The patient should not sit up too soon, and no company should be allowed too soon, and there should be no mental strain, and above all things, such convalescents should not be allowed to go too long without food.

Therefore, the general treatment of this kind of insanity is the removal of the cause, rest, quiet, plenty of sleep, massage, good food, and no asylums, if possible.

Dr. Harry Friedenwald has seen a number of cases of acute mania after cataract operation, and it has been attributed to bad treatment of the eyes and being in the dark room too long.

Dr. H. M. Hurd was quite familiar with that class of patients, and thought the mania was due to the instillation of atropia. He had seen such cases which got well when the atropia was stopped. He recalled two such cases. This is a toxic insanity. One case was treated for epilepsy; she had wild delirium in the night, and broke everything in the room. It was found that stopping the use of belladonna, which she had been taking, cured the disease.

Dr. C. G. Hill recalled a case of insanity from belladonna, which was stopped, and the disease got well. He thought, too, that post-febrile insanity was also due to some innate susceptibility of the patient. Many pass through fevers, operations, etc., and do not have this insanity. It need not be inherited. Some cases occur on the slightest provocation.

Dr. J. C. Harris asked how he treated these typhoid cases that were followed by this delirium.

Dr. George H. Rohé was glad that he spoke of insanity following unusual causes, as puerperal fever. He had been investigating puerperal insanity and the connection of the sexual organs. Cases followed erysipelas. It is a question whether he should class here insanity from sun-stroke. In insanity from operations he thought it was not from the operation but from the woman's condition.

Dr. H. M. Hurd, in closing the discussion, had never heard of a case of post-febrile insanity following typhoid fever which had been treated by the Brand method. He classes sunstroke with the traumatic diseases; it is a meningitis. It would be of great service if the physician would bear in mind the delirial effects of certain drugs. He related a case of a man to whom the physicians had given so much salicylic acid that it had made him temporarily insane and they wanted to put him in an asylum. He was cured by stopping the drug. He related similar cases with the iodide of potash and atropia.

Dr. S. J. Fort read a paper on "Diet and Exercise in the Treatment of Epilepsy."

Dr. H. M. Hurd said he had found out that the means of treating epilepsy as suggested by Dr. Fort was much better than with drugs. It was not only necessary to have a varied diet, but the time of eating should be fixed. Epileptics usually eat too often. They should eat their last meal long before they go to bed, that is six to eight hours before. It is

better too for them to eat only two meals a day. They should also take all their sleep at once and not take naps in the day time, for the unquiet rest of the day and the uncomfortable positions are apt to bring on an attack of the disease.

Dr. C. G. Hill then read a paper entitled "Some Hints on the Relation of the Sexual Organs to Nervous Disease."

Dr. H. M. Hurd said there were two opposing camps, the gynecologists and the alienists; each one thought their specialty was caused by the other. He thought that every asylum should have a gynecologist on its staff.

SECTION ON OPHTHALMOLOGY, OTOLOGY AND LARYNGOLOGY.

Dr. S. K. Merrick read "A Review of the Literature of Laryngology during the Past Year."

Dr. G. W. Thomas read a paper entitled "The Relation of Nasal Surgery to the Treatment of Nasal Disease."

Dr. Harry Friedenwald read a paper on "Opening of the Mastoid Process."

Dr. Hiram Woods read a paper on "Diphtheritic Conjunctivitis."

Dr. J. J. Chisolm read a paper entitled "The Dislocation of an Opaque Lense—Nature's Rare Method of Restoring Sight to a Cataractous Patient."

Dr. P. C. Williams related a very interesting case of

THE EXPULSION OF AN IMMENSE GALL STONE UNDER THE ACTION OF CHLORAL.

He had attended an old lady of 72 for the grippe and she had apparently recovered. A short time after, she ate imprudently and had what appeared to be an attack of cholera morbus. He used prompt measures and everything was stopped except the vomiting. She had a slight pain over the abdominal region and on examination he found a well defined tumor in the region of the ileo-cæcal valve. He thought it was an intussusception. He recalled a case in which he had given 40 grains of chloral every two hours for what was an intussusception with good results, so, in this case, he gave 30 grains every two hours and as the vomiting still kept up, he gave it per rectum combined with two drachms of the fluid extract of senna; at the end of 48 hours she was relieved, and the daughter who was watching the case gave him on his next visit the gall stone which he showed to the society. It measured 1⅝ inches in length, 1¼ inches in diameter and 3⅝ inches in circumference. It was the largest he had ever seen. The weight he had not taken. He had thought it had ulcerated through the bile duct and had plugged up the ileo-cæcal opening and the chloral probably relaxed the intestines and the senna hurried it on. It only shows that it is not well to be too precipitate in operating for intussusception.

Dr. A. C. Pole said that he had reported a similar case not long ago. The stone in his case weighed 200 grains, and he had thought it was ileus and had given extract of belladonna and podophyllin.

At the evening session, Dr. Frederick E. Lange, of New York, delivered the annual oration on the subject

THE PATHOLOGY AND TREATMENT OF ACUTE SPONTANEOUS OSTEO-MYELITIS.

Osteo-myelitis is comparative a recent nosological conception. Chassaignac first described it as we now understand it in 1854, but it is of interest to note that Nathan Smith, who flourished in 1798, described this condition, and his son Nathan R. Smith, in 1834, in the history of his father gave a very good description of this disease long before the French writers thought of it.

It is a disease which begins very slowly and is often not suspected. In this country the disease is rare, and it is also rare in some parts of Germany and Switzerland. It is not often recognized. It occurs in young persons and attacks the juxta epiphyseal portions of the long bones. The neighboring joints are involved. In 1884, Becker described a coccus, and later Rosenbach described an organism. The type of the disease is an acute infectious disease of specific character, and Rosenbach thought that this organism was the specific organism of the disease. Krause found the same organism in carbuncle of the neck. The pathogenic organism gets into the circulation either through the skin or the intestinal tract. It may occur in a healthy subject of the growing age and may come after injury, exertion, etc. The patient complains for a day or two of pain in an upper or lower extremity near one of the large joints, then a little time passes and the general disturbance comes on.

It may assume a typhoid condition, and then the patient cannot call attention to the trouble and it is treated as if it were typhoid fever. The bone feels as if it were broken. Again it may be like acute articular rheumatism and is a pseudo-rheumatism, and it may go on to abscess and necrosis of bone. The epiphyses of the femur may become necrotic and we may have a chronic bone abscess, a specimen of which he showed. There is a tendency of the patient to get over the primary and get secondary affections of other bones.

The system of such patients seems to be under the influence of some slow poison and exhaustion and disintegration take place, and the rest is much disturbed at night. An operation gives the only hope of doing good.

Dr. L. McLane Tiffany was elected president for the next year, and 117 new members were added to the list.

Philadelphia County Medical Society.

April 27, 1892.

VICE-PRESIDENT CHARLES H. THOMAS IN THE CHAIR.

DR. Solomon Solis-Cohen read a paper entitled:

SHALL PHYSICIANS BECOME SALES-AGENTS FOR PATENT MEDICINES?

Section 4 of Article I of the By-laws of the Philadelphia County Medical Society reads as follows:

"Any physician who shall procure a patent for any instrument of surgery, or who sells or deals in patented remedies or nostrums, or who shall give a certificate in favor of a patented or proprietary remedy or patented instrument, or who shall enter into an agreement with an apothecary to receive pecuniary compensation or patronage for sending his prescriptions to that apothecary, shall be disqualified from becoming or remaining a member."

Article VIII of the By-laws of the Philadelphia County Medical Society accepts as an integral portion of those by-laws, the Code of Ethics of the American Medical Association.

A section of that Code of Ethics treats "of the duties of Physicians to Each Other and to the Profession at Large." Article I of that section sets forth "Duties for the Support of Professional Character." Section 3 thereof condemns open or underhand advertising as "derogatory to the dignity of the profession." "These," it says, "are the ordinary practices of empirics, and are highly reprehensible in a regular physician." Section 4 continues:

"Equally derogatory to professional character is it for a physician to hold a patent for any surgical instrument or medicine, or to dispense a secret *nostrum*, whether it be the composition or exclusive property of himself or of others. For if such nostrum be of real efficacy, any concealment regarding it is inconsistent with beneficence and professional liberality, and if mystery alone give it value and importance, such craft implies either disgraceful ignorance or fraudulent avarice. It is also reprehensible for physicians to give certificates attesting the efficacy of patent or secret medicines, or in any way to promote the use of them."

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To the clearness and force of this dictum nothing can be added. Its wisdom and justice are beyond dispute.

It is unfortunately true that much of our therapeutics is as yet empirical. Nevertheless, the best endeavors of the true physician are directed toward establishing a rational basis for that which experience has proved to be beneficial; toward obtaining scientific data by which to make progress to a therapeutics not empirical; and toward eliminating from the traditional heritage of the profession such measures as may have had their origin in superstition or mistaken observation. To use preparations of unknown composition; to use mixtures of innumerable substances, some directly opposed to each other; to use even rational and known combinations of which the ingredients and proportions have not been adjusted to the indications and conditions of the individual case—are certainly not scientific methods or practices likely to advance rational therapeutics.

That much of the flavor of the mystery and witchcraft that at one time appertained to the practice of the healing art should have survived among the vulgar, is only a phenomenon to have been expected in the natural course of social evolution. Hence it is that homœopathy, and mind-cure, and patent medicines, have so powerful and so profitable a hold upon the purses of the community, and this not alone among the ignorant and the unlettered. It is a notorious fact that the clergy—presumably educated and intelligent men—are among the most prominent and persistent givers of testimonials to the virtues of advertised nostrums, and medical men and medical journals have long made the religious press a target for satire and invective, because of the hold that the advertising quack has secured upon its columns.

In an address to the Medical Society of the State of Pennsylvania at its last meeting, in calling attention to the alliance between the secular press and the empirics and nostrum-venders, I felt justified in saying that the publishers of magazines and newspapers that allowed themselves to advertise the curative virtues of this or that ready-made preparation or alleged remedial measure, to be applied indiscriminately to all cases—whether of one disease or of many diseases—were accessories to a crime against the unfortunate and the helpless; not alone because of the money filched from the pockets of those deluded by the false promises held out to them; not alone because of suffering unrelieved and lives deprived of their chance for prolongation; but in many instances because of the disease and suffering and death directly produced by the poisonous compounds and noxious gases administered to any that chose to purchase. If such criticism was justified—and who is here that will deny its truth?—if such criticism was justified when applied to those who make no pretence of special knowledge or of devotion to a noble art—to those whose object is solely and avowedly commercial—what language remains to characterize the action of medical journals that permit the insertion in their columns of advertisements such as these that I pass around? What severity of reprobation is adequate for the conduct of the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION? What words of condemnation are strong enough for the physician that permits his name to be associated with these devices of the devil?

The frankly unscrupulous patent-medicine vender, the maker of "Safe-cures," or "Temperance Bitters," or "Sure Specifics," is at least to be commended for what, to paraphrase a remark of Senator Benjamin Harrison's, may be termed his "bold brutality." His allegations of philanthropic motives are not intended to be believed; they deceive no one—they are the recognized *ad captandum* devices of the cleverer advertiser—and, in the sale of his wares, there is no pretence of examination, or of diagnosis, or of prescription based on diagnosis.

Far more iniquitous and far more dangerous to society is the wily manufacturer that advertises "to the profession only." Whether he ostentatiously holds secret the composition of his nostrum, or whether with pretended frankness he describes it with an appellative that means nothing, or publishes a formula that cannot be carried out, his object is the same; he seeks to make the physician's the hand whereby he may reach pockets shut from the coarser methods of the Warners, the Pinkhams, and the Jaynes; for, after all, it is the minority that can be deluded by the flaring posters of "Wizard Oil," or the lying testimonials of "Tonic Vermifuge." When a sick man applies to a physician, thinking that thereby he will secure the benefit of special knowledge brought to bear upon the conditions of the individual case, entrusting to the conscience of his medical adviser his health and his life, he is entitled to the skill and the thought for which he pays, and that he deems himself to be receiving. He certainly deserves better treatment that to be handed over to the mercies of "antikamnia," or "febricide," or "quickine," or "gleditschine," or "Freligh's tablets," or "Listerine," or any other of the unholy crew. If such is to be his fate, let him have the satisfaction of buying the worthless or poisonous stuff direct, without the sham of a professional consultation, and without paying purchaser's commission to the medical sales-agent.

At the coming meeting of the State Society I purpose offering the following resolutions, for which I ask the support of this Society:

Resolved, That the Medical Society of the State of Pennsylvania hereby expresses its highest disapprobation of the practice of giving certificates or testimonials to secret preparations alleged to be of medicinal virtue, and calls the attention of the affiliated county societies to the fact that such action on the part of members of the said societies is in derogation of the dignity of the profession, and in violation of the letter and the spirit of the Code of Ethics of the American Medical Association and of this Society.

Resolved, That this Society likewise expresses its disapprobation of the practice of inserting advertisements of secret preparations in the columns of medical journals, such action being an insult to the intelligence of the profession, and a degradation of journals indulging therein to the level of the patent medicine almanac. Especially to be condemned is the action of THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION in admitting such advertisements.

Resolved, That copies of these resolutions, duly attested by the permanent Secretary, be sent to all county societies in affiliation with this Society, to the American Medical Association, to State medical societies in affiliation therewith, and to the publishers and editors of American medical journals.

On motion of Dr. J. Madison Taylor, the resolutions were adopted as the sense of the Philadelphia County Medical Society, and the delegates to the Medical Society of Pennsylvania were instructed to officially present and support them.

NECROLOGY.

DR. RUTSON MAURY, of New York City, died May 5, aged thirty-seven years. He was born in North Carolina, the son of Captain W. L. Maury, lately of the Navy and of the Confederacy. He was an alumnus of New York Free College and Bellevue Hospital Medical College, passing first at the competitive examinations. Hospital work at Bellevue next engaged him for two years; after which he settled in practice, becoming associated with Dr. W. T. Lusk. Less than a week before his death he was attacked by pneumonia. He was removed to St. Luke's Hospital, and at that place died in the prime of his early manhood. He was a member of the New York County Medical Association and other organizations.

DR. CHARLES F. STILLMAN, formerly of Plainfield and New York City, and latterly of Chicago, died at the first named city on April 30. He was prominent as a teacher and writer on topics relating to life insurance. He is said at one time to have held a chief examinership in one of the great companies, which yielded a salary of $15,000 per annum. He was a graduate of Rutger's College and of the Columbia College Medical Department, class of 1876, and held lectureships at the Woman's Medical College of the New York Infirmary and at the University of Vermont. His fatal illness is reported to have been acute pulmonary tuberculosis, supervening upon a pneumonic attack which occurred last winter. He joined the American Association in 1876, and contributed elaborately illustrated articles on orthopædic surgery to one or two of the later volumes of our old series of Transactions.

DR. THOMPSON BURTON, of Fultonville, New York, died May 4, 1892, about eighty years old. He was a graduate of Castleton Medical College in the year 1835; member and ex-president of the Montgomery County Medical Society. He was a great believer in the power of associated labor, and was frequently to be seen at the annual conventions of State and National organizations. He was a member of the American Medical Association from 1880.

DR. HIRAM H. TICHENOR, a member of the Association since 1880, died at his home at Newark, New Jersey, May 2, aged sixty-four years. He was a native of Newark, and one of its best known practitioners for forty years. He was prominent in musical matters, as well as medical; president alike of the Madrigal Club, the Orpheus Singing Society, and of the Essex County Medical Association; manager, also, in one of the savings banks, and member of the Board of Trade. He was graduated in 1854 from the University Medical College, New York, receiving awards and certificates for special proficiency in surgery and obstetrics. He was Professor Bedford's clinical assistant for one year, before going back to Newark to settle down for his life-work in his native town. A widow and three daughters mourn his departure.

BOOK REVIEWS.

A PRACTICAL MANUAL OF DISEASES OF THE SKIN. By GEORGE H. ROHE, M.D., Professor of Materia Medica, Therapeutics and Hygiene, and formerly Professor of Dermatology in the College of Physicians and Surgeons, Baltimore, etc. Assisted by J. WILLIAMS LORD, A.B., M.D., Lecturer on Dermatology and Bandaging in the College of Physicians and Surgeons; Assistant Physician to the Skin Department in the Dispensary of Johns Hopkins Hospital. *No. 13 in the Physicians' and Students' Ready Reference Series.* In one neat 12mo volume, 303 pages. Extra Cloth, price $1.25, net. Philadelphia: The F. A. Davis Co., Publishers, 1231 Filbert St.

Dr. Rohe is not only a very versatile writer, but the productions of his pen have always a very practical flavor that commends them to the student and practitioner. The present volume presents the essentials of diseases of the skin in a very convenient and readable form. It is fully up to the times, and to the medical student especially will prove of great service.

A TREATISE ON DISEASES OF THE GENITO-URINARY APPARATUS. By J. W. S. GOULEY, M.D. New York: D. Appleton & Co.

Dr. Gouley has given us an excellent treatise on diseases of the genito-urinary organs, but has marred it somewhat by mannerisms and peculiarities of nomenclature that savor a trifle of affectation. They certainly do not add to the practical value of the work. But Dr. Gouley's reputation will stand the publication of a few peculiarities. We cordially endorse the book.

MEDICAL AND SURGICAL GYNECOLOGY. By S. POZZI, M.D. Vol. II. New York: Wm. Wood & Co.

This is the completion of the most elaborate and systematic treatise on gynecology ever published. Volume II is fully up to the standard attained by the first volume, and will be warmly welcomed by subscribers to the work. It is pleasant to note that medical publishers are devoting some attention to the artistic as well as the scientific merits of their publications. Pozzi's work is certainly a handsome production.

THE AMERICAN MEDICAL ASSOCIATION.—Detroit, Mich., has been selected as the place of meeting of The American Medical Association this year, and the time is Tuesday, June 6, as the opening day. Detroit is a beautiful city of about 150,000 inhabitants, situated on Lake Erie. It will be particularly attractive for a meeting place at that season, because it is freed from the relaxing and depressing influences of summer heat by the magnificent and bracing breezes from the lake. This city is a little more centrally located than the place of meeting last year—Washington—and for the reasons given, if for no others, there should be a larger attendance.

The American Medical Association is growing in numbers and strength each year, as it deserves to do. It is the National Medical Association of the United States, and for that reason alone every physician should take a personal pride in its prosperity. True, it has some defects. Is there a medical society without them? True, some physicians will not acknowledge it to be the national society, but they can not refer you to one that has a better claim to that honor, nor to one in which the profession is more nearly represented.

The men who belong to and are interested in the welfare of this Association are certainly very desirous that it should be the representative society of the nation and would appreciate not only the support of those who believe that it is not and desire a national society, but would accept any practical means they presented of making it so.

Let thinking physicians who have a national pride consider this matter conscientiously and see if there is not "a still, small voice" within them which says: Go, lend your aid in correcting the defects, in strengthening the weak points, and in placing the American Medical Association still in the ascendency.—*New Albany Medical Herald.*

DIPHTHERITIC PARALYSIS.—Dr. W. Rozenzweig, in *Can. Practitioner*, reports four cases of paralysis of the soft palate after diphtheria, occurring in children of from 6 to 12 years old, in which a rapid cure was effected by the hypodermic use of strychnine. The doses were from 2 to 4½ ♏ of a 1 per cent. solution, and were injected into the neck. In one case remarkable improvement was produced by the first injection, and in another a complete cure was obtained by three daily injections. In none of them was treatment required beyond a week.

GLYCERINE.—Dr. Fiodoroff (*Rev. de Thérap.*) uses glycerine in place of iodoform in dressing wounds and tabulates the reasons for his preference as follows: 1. Glycerine produces in external application no disagreeable secondary effects, whether local or general. 2. In suppurating wounds, it diminishes the suppuration, cleanses the granulations, prevents the morbid processes and accelerates the formation of the cicatrix. 3. It acts like a protective layer in cases where mucous membranes have been destroyed. 4. The walls of purulent cavities, under the influence of glycerine, are rapidly altered, healthy granulations making their appearance.

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MEMBERSHIP IN THE AMERICAN MEDICAL ASSOCIATION.

This is obtainable, at any time, by a member of any State or local Medical Society which is entitled to send delegates to the Association. All that is necessary is for the applicant to write to the Treasurer of the Association, Dr. Richard J. Dunglison, Lock Box 1274, Philadelphia, Pa., sending him a certificate or statement that he is in good standing in his own Society, signed by the President and Secretary of said Society, with five dollars for annual dues. Attendance as a delegate at an annual meeting of the Association is not necessary to obtain membership. On receipt of the above amount the weekly JOURNAL of the Association will be forwarded regularly.

SATURDAY, MAY 28, 1892.

THE PHILADELPHIA COUNTY MEDICAL SOCIETY.

Attention is directed to the proceedings of this organization on another page of this issue of THE JOURNAL, in which will be found a paper by DR. SOLOMON SOLIS-COHEN, and after the paper, a series of resolutions which were adopted condemning the action of this JOURNAL for admitting certain advertisements of proprietary medicines in its pages.

To all questions there are two sides, and it seems that the reasons for the course which THE JOURNAL has pursued in this matter should be set before the members of the Association.

The ideal in medical journalism has not, and never will be, attained, and it is well that this is so, for then the ambitious journalist would in a great measure cease his labors.

Not infrequently a physician is seized with an ambition to show his fellows just what a medical journal should be and what it should do, and one of the first propositions in his mind is a publication that will be absolutely clean and free from all repugnant advertisements, and, in his estimation, all advertisements are repugnant.

A theory is adopted that an announcement to the medical profession of a medical journal without advertisements will cause hundreds and thousands of names to be sent in as subscribers. The theory is excellent, the ideal is on a high plane; but, unfortunately, the hundreds of expected names do not come in, but instead, the printer's monthly statement is singularly prompt, and if not at once paid, a dun quickly follows, saying, paper bill is due, and printers must have their wages every week, to say nothing of rent, taxes, etc.

The luxury of furnishing copy and seeing a clean publication is highly enjoyed. English adjectives are not sufficiently strong to do justice to the publication; but the vexatious counter-irritation produced by the aforesaid bills fairly blisters the ideal journal, the monthly application soon becomes monotonous, and a running sore is established. The ambitious editor loses patience with all other members of his profession for not flocking to his relief, and as they don't flock, he is apt to indulge in adjectives and resolutions of condemnation. There is no hazard in saying, there is not an editor in this country who would not greatly prefer the management of a journal without advertisements than one with them. In the founding of THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, the trustees appointed by that body would have much preferred to start THE JOURNAL without advertisements than with them; but the means at their disposal were not only small, but very limited, so that the question presented to them was not of an exclusion of advertisements, but one of founding a journal that would have sufficient life-giving properties to exist after its establishment.

The Association created the Board of Trustees to act. THE JOURNAL was started with advertisements because it could not be started without them. There was neither a rich firm nor wealthy corporation behind the venture. Like all starts of this kind, THE JOURNAL was many a time in a tottery condition; but rigid economy enabled it to withstand the vicissitudes of its early years, and even at this period of THE JOURNAL'S life, its strength is dependent in no slight degree upon its advertising patronage.

In the past some advertising orders have been accepted by THE JOURNAL management which should have been declined, but a desire to strengthen the reading pages was the motive.

The line to be drawn by the publisher must always be guided by his own judgment, and a maturity of knowledge in this direction comes only with an experience of years, and may justly be classed with the skill of an expert in a professional specialty.

For the growing use of such preparations several reasons may be assigned. Practitioners in the country and smaller communities do not have at their disposal the extensive pharmaceutical resources of their brethren in the larger cities, and to men so situated, compressed tablets, and articles of like description, have proven a great boon. The convenience of ready-made preparations once appreciated, the tendency of these gentlemen to lessen their already arduous labors by the further use of such preparations can be readily appreciated. They can, by their use, present their patrons with much more elegant specimens of pharmaceutical work than they can possibly produce from the crude and limited materials to be found in their saddle-bags. Probably these factors of convenience in dispensing and elegance in preparation have contributed more than all else to the use of these much condemned proprietary preparations. Be that as it may, there certainly does exist on the part of the profession at large a widespread demand for just these things.

That it is not scientific to use as remedies preparations whose composition is known but in part is certainly true, and that it is absolutely unjustifiable for any physician to use a preparation whose composition is entirely unknown is likewise true. Just what advertisements should be excluded from appearing in this particular publication is, of course, a matter of individual judgment, in which probably no two men would agree exactly.

Exclude all advertisements of proprietary medicines, says the Philadelphia County Medical Society. To this we will not object if — the Philadelphia County Medical Society will donate to THE JOURNAL an equivalent sum of money, and furnish a guarantee that this will be continued for a long term of years; but even that could not well be afforded by THE JOURNAL, for the advertisements continuously furnish the members of the American Medical Association with information which many want, and which they could not otherwise obtain unless by taking some other journal.

Furthermore, the art of pharmacy has kept fully abreast of the advances made in other departments of medicine. To such a laudable extent has the work of the pharmacists progressed, that the American Medical Association, two years ago, incorporated pharmacy with materia medica, and made of it a Section of the Association.

The manufacturers of proprietary preparations should be required to make public the ingredients of such preparations. The method of manufacture and the skill used in preparation is their own property, and physicians need not have a practical knowledge of these methods in order to make an intelligent use of such remedies. A knowledge of the methods used for extracting quinine from cinchona bark is not needed by physicians any more than a knowledge of the method used in the manufacture of champagne before drinking, or of the baking a pudding before eating.

Suppose the Philadelphia medical journals would all unite and throw out their advertising patronage, and at the same time double their subscription rate; how long would it take for the physicians of Philadelphia to say to their home journals: Erase our names; we can get an equally good, but no better journal, plus the advertising pages, published in New York for one-half the price you demand. We like to patronize home talent, but don't like to be robbed to pay for it. In that spirit and expression the Philadelphia physician would be but the counterpart of nine out of every ten the country over, and it is the subscriptions of the nine that sustain the journals.

As rapidly as contracts expired during the past year, undesirable patrons of the advertising pages have been eliminated, and offers of orders during that time amounting to more than $1,800 have been rejected because of their character. This work of elimination might, perhaps, have been carried further, but we can say without hesitation that the pages of THE JOURNAL are reasonably free from objectionable advertising matter, and that which is published represents to the Association for the current year a sum exceeding $12,000.

This amount is named, and easily verified, so that the Philadelphia County Medical Society may know approximately the sum annually needed to make good the losses from this source, and the cost of the luxury they have resolved upon.

One other point. The advertising pages of this journal are completely divorced from the reading matter. No "reading notices" appear in its pages. All matter which has any appearance of an advertising character about it is carefully excluded from its reading matter. The advertisements are understood to be paid material, *ex parte* statements, and to be taken for what they are worth, just exactly as advertisements are everywhere.

In this connection, it is instructive to look at the advertising pages of the *British Medical Journal*, truly our sister, as it is published, like this journal, under the auspices of a great national medical association. Among the advertisements which appear in the last number which has reached us we notice "Bynin," "Bromidia," "Bovinine," "Cocatina," "Pepsalia," "Flitwick," etc.

MONUMENTS.

The erection of these structures is characteristic of the people of all times who lay any claim to recognition as belonging to the civilized nations of the earth.

Monuments commemorate the name, life, acts and significant attainments of individuals and of events. The motive which incites to the building of these structures is nearly always praise-worthy, as it indicates an abnegation of self in the contribution of a token of gratitude, in order to commemorate the purpose that is to be kept alive in enduring granite and bronze, for the benefit of succeeding generations.

A few years ago a good spirit put it in the hearts of some members of the medical profession to raise funds to be expended in the erection of a monument in memory of the life of our Nation's first great physician, DR. BENJAMIN RUSH, and annually this subject has been brought before the members of the American Medical Association and contributions solicited. Every year witnesses a little aggregation to the sum originally donated, but it is very desirable that the whole amount be raised at as early a period as possible in order that the people of the present generation may enjoy the sight and thought of such a structure adorning one of the little parks in our Capitol City.

Within the past few months another similar enter-

prise has been started for the purpose of creating a fund to be expended in the erection of a monument in memory of DR. SAMUEL D. GROSS, to be likewise placed in Washington. No two individuals can be named who more creditably represent the ideals in medicine and in medical men than DRS. RUSH and GROSS. No two men have exerted a more beneficent influence over their profession. No two physicians ever received a more spontaneous recognition of their great professional worth, from the people of all Nations than DRS. RUSH and GROSS. They were true representatives of the highest type of American physicians. For these reasons an appeal is made for contributions to raise funds to be expended in the erection of a RUSH and a GROSS monument in Washington City.

THE STATE SOCIETIES.

Two years ago when the Association met in Nashville, a resolution was offered which had for its purpose the adoption of such a by-law as might be necessary in order to affect a closer unification of the State Societies with the American Medical Association than now exists. Under the rules this went over for a year before action could be taken. Last year when the subject came up in order, the President was directed to appoint a committee to formulate such a plan as might seem proper and practical. Through an oversight this committee was not appointed, but on account of this informality so important a subject as this should not be allowed to drop out of sight, but may very properly be presented at the ensuing meeting, by DR. N. S. DAVIS, who was the mover of the motion to appoint the Committee.

It is exceedingly important that the State Societies should sustain a close and practical relationship with the American Medical Association, by becoming branches of the Central organization. This would be highly beneficial to the State Societies, which should in turn secure the organization of a Society in every county, which would stimulate to good work and do very much in the way of elevating professional standards all over the country. Such local organizations would smooth personal asperities, and it would be soon seen that there is a greater community of interest in the ties that bind us together in a common profession than is generally supposed. The County Societies being all alive and holding monthly meetings would stimulate a universal interest in the State Societies. A membership in a local County Society should also mean a membership in the State Society. The papers and discussions in these local Societies should find their way into print in the local medical journals. This would be a grand good thing for our literature, as it would at once interest every member in the local journal that publishes their proceedings. The universal taking of local journals would do much in the way of eradicating trade publications which subsist wholly on their advertising patronage, and are only debasing and demoralizing in their influence.

In the organization of the State Societies the presidents should be ex-officio vice-presidents of The American Medical Association, and the secretaries and treasurers hold similar relations. These officers having the names of members and the machinery of the State societies in their hands could take the necessary steps to bring every member into actual permanent relationship with the American Medical Association.

This would place the Journal of the Association immediately in the hands of not less than twenty thousand practitioners, and which would very speedily be increased to double, treble and quadruple that large number, and provide for the issue of a publication with the strength of a Hercules in power.

To bring this about, steps should be taken at this meeting to invite all affiliated and National specialty societies to become branches of the American Medical Association on some such simple basis as that above indicated.

URIC ACID DIATHESIS IN CHILDREN.

DR. SUTHERLAND contributes a short but suggestive paper upon this subject in a recent number of the *British Medical Journal*.

Under the heading "Symptoms Due to the Presence of Uric Acid in the System" he says:

"The subjects of the diathesis are often easily recognized. They have keen precocious minds, and small restless bodies; they are excitable, nervous, bright and amusing at one time, and greatly depressed at another; they do not readily fall asleep at night, often talk in their sleep, and have a habit of awaking in the very early morning; and they are dainty feeders, with a taste for everything that is bad from a nutritious point of view. The children are often described by their parents as being very subject to colds, and a chill in some form or another is the usual precurser of an acute attack. Along with this, and acting possibly as the cause, is a tendency to profuse sweating on moderate heat or exertion. Cold hands and feet are very frequently complained of—a symptom which Dr. Haig ascribes to uric acid in the blood, and which, he suggests, may be found in a more advanced condition as the local asphyxia of Raynaud's disease. During the course of the affection acute attacks occur, which are recurrent in type and usually of short duration, especially if the child is kept in bed. The pharynx is often relaxed and irritable, causing a loud barking cough, most marked when the child goes to bed, and which may be accompanied by some bronchial inflammation. The tonsils and adenoid tissue of the naso-pharynx are liable to acute attacks, which lead to chronic thickening and enlargement. Frontal headaches and symptoms of intestinal catarrh, with a furred tongue and foul breath are common. As regards the heart a slight irregularity is occasionally found, and the pulse is often small, weak, and irregular. The liver and spleen may be enlarged. In some cases abdominal pain is the only complaint, and this may sometimes be found to be localized in the right iliac fossa."

Among the symptoms connected with the excretion

of uric acid, DR. SUTHERLAND mentions prominently renal colic, which with Dr. GOODHART, he correctly believes to be more common in children than is generally supposed. He also calls attention to incontinence of urine and vesical irritation.

DR. SUTHERLAND'S description of the symptomatology of this disorder is so graphic that we have thought best to repeat it in his own words. But as the description is read, one instinctively feels that the analysis has not been sufficiently close. The subject is one which as yet is surrounded by much doubt, and nearly everything which has been written upon it, reflects the doubts and uncertainties of the writers. DR. SUTHERLAND makes no reference to age, although the cases which he reports range from 4 to 11 years.

Much of the first part of his description is very suggestive of the earlier symptoms of incipient rickets, while the latter part recalls cases of stercoræmia.

Broadly speaking, the conditions he mentions are evidences of perverted metabolic processes, long continued, and in which the question of infection can hardly be supposed to enter at all.

It would seem that all possible factors in the production of perverted metabolism of this type might be comprised under the following heads:

1. Heredity—involving essential deficiency or misdirection of the elaborative, assimilative, retrograde or excretory processes.

2. Deficiency of food supply in quantity or kind—producing general starvation or such special forms of starvation as rickets.

3. Auto-intoxication, produced either by poisons elaborated in the system, or by poisons absorbed from the intestinal tract.

The nutritional processes of children under two years of age are so essentially different from these processes after that age, that it would seem necessary to always take this factor into consideration.

The foregoing is offered as a preliminary plan for the study of the nutritional disorders of infancy and childhood, which are exceedingly important, but as yet very much in the dark.

THE DETROIT MEETING.

It is with much regret that we are obliged to announce that outside the boundaries of the Central and Michigan Traffic Associations, we have not been able to secure a better passenger rate than a fare and a third for the round trip to the Detroit meeting. In purchasing tickets delegates should obtain a certificate from the railroad agent. This certificate must then be countersigned by the Secretary of the Association at Detroit, which enables the holder to purchase a return ticket at the reduced rate.

Delegates from points west of Buffalo and Pittsburgh, and east of the Mississippi river, north of the Ohio river and south of the Great Lakes, will be able to obtain the single fare rate from their homes to Detroit and return, on dates during the week of the meeting.

In obtaining this concession from the Central and Michigan Traffic Associations, we had the practical aid of the general passenger agent of the Michigan Central Railroad.

And on our assurance of a large delegation from this and other points west and south of Chicago, he has placed at our disposal a large special train of Pullman sleepers, which will leave here Monday evening, June 6, at 9 P.M., arriving in Detroit early Tuesday morning.

The arrangements are ample for the handsome accomodation of delegates, even should the number from this point alone reach more than a thousand. All other things being equal, it is best to go together in a body. In any case it will be the correct thing to do to send your name to Mr. L. D. HEUSNER, 67 Clark street, Chicago, requesting him to reserve for you a berth or section, as you may desire, on this or any other Michigan Central train that may leave here on or after Monday morning.

All railroads in this Central Traffic district above outlined, give the uniform single fare round trip rate. Where a number expect to go from one point, as from St. Louis, Louisville, Cincinnati, Pittsburg and Cleveland, it will be well for some one to arrange with the Passenger Agents at those points for special cars and trains. Nashville, Chattanooga, Louisville and other points in that direction should converge to Cincinnati, where they will meet a large delegation of members and make up one, or even more train loads. The same may be said of other points.

Detroit is this year our Mecca, and to it every loyal member of the American Medical Association should turn his face, taking with him as many new men as possible.

Detroit is a grand place for the wives of delegates to go to. The city itself is surpassingly beautiful. The river affords excellent boating and fishing, and the drives are at their best.

We have only to hint at the hospitable provisions made for their entertainment by the ladies of Detroit and Michigan. It is sumptuous. We have our own opinion of the delegate that don't take his wife to such a meeting when the railroad rate is a single fare for the round trip, and the rate goes alike for the doctor's helpmate with himself.

THE RUSH MONUMENT.—Soon after the adjournment of the Nashville meeting of the Association, the chairman of the Committee of Exhibitors, William J. Evans, Esq., of New York, informed the undersigned of the unanimous vote of the exhibitors to contribute whatever balance there might be over all expenditures to the Rush Monument Fund, and

accordingly Dr. J. Berrien Lindsley, of Nashville, who, by appointment of the local Committee of Arrangements, was charged with the entire management of the exhibits, has paid to Dr. DeWitt C. Patterson, of Washington, the Treasurer of the Rush Monument Committee, the sum of *three hundred dollars* as the contribution of the exhibitors to that Fund.

The Rush Monument Committee desires to make this public acknowledgement of the generous action of the exhibitors at the Nashville meeting of the Association, and to express the hope that their splendid example may induce others to do likewise.

ALBERT L. GIHON, M.D.,
GEORGE H. ROHE, M.D., Chairman R. M. C.
Secretary.

MORTALITY FROM INFLUENZA.—The first quarter of the year 1892, in New York State, showed an abnormally high death-roll from local diseases. The Secretary of the State Board of Health, for that State, makes an estimate that not less than 10,000 persons died there, in January, February and March, from epidemic influenza or from diseases predicable upon that epidemic.

THE MICHIGAN STATE MEDICAL SOCIETY, at its late meeting in Flint, unanimously adopted resolutions urging Congress to pass the Bill creating a Cabinet Officer of Public Health.

SECTION ON SURGERY AND ANATOMY—PROGRAM.

Section meets in Schwankovsky's Music Hall, Woodward Avenue, corner John R Street.

Officers of Section, J. Mc F. Gaston, Atlanta, Ga., Chairman; F. W. Mann, Detroit, Mich., Secretary; Jno. B. Hamilton, Chicago, Ill., Orator.

ORDER OF BUSINESS.

FIRST DAY, TUESDAY, JUNE 7, AFTERNOON SESSION—3 O'CLOCK.

Call to Order.
Report of Committees.
Reading of Papers and Discussion.
Appointment of Nominating Committee.
Miscellaneous Business.

SECOND DAY, WEDNESDAY, JUNE 8, AFTERNOON SESSION—3 O'CLOCK.

Call to Order.
Report of Nominating Committee.
Election of Officers (time fixed by the By-laws).
Reading of Papers and Discussion.
Miscellaneous Business.

FOURTH DAY, FRIDAY, JUNE 10, AFTERNOON SESSION—3 O'CLOCK.

Call to Order.
Report of Committees.
Reading of Papers and Discussion.
Adjournment.

TUESDAY, JUNE 7—AFTERNOON SESSION, 3 O'CLOCK.

Surgery of the Liver, Etc.

1. Address of the Chairman. Surgery of the Gall-Bladder and Ducts, J. McFadden Gaston, Atlanta, Ga.
2. Obstruction of the Cystic Duct, with a Case, W. H. Myers, Fort Wayne, Ind.
3. Peritonitis from Gall-Stones, W. E. B. Davis, Rome, Ga.
4. Gunshot Wound of the Liver and Stomach. Laparotomy. Recovery, James T. Jelks, Hot Springs, Ark.

Discussion opened by A. Vander Veer, Albany, N. Y.; J. F. W. Ross, Toronto.

5. Eight Cases of Œsophageal Stricture, D. S. Campbell, Detroit.

WEDNESDAY, JUNE 8—MORNING SESSION, 9:30 O'CLOCK.

Intestinal Surgery.

6. Intestinal Obstruction, Dudley P. Allen, Cleveland, O.
7. Intestinal Obstruction and its Treatment, H. H. Mudd, St. Louis, Mo.
8. A Comparative Test of Anastomotic Devices, John D. S. Davis, Birmingham, Ala.
9. A Clinical Contribution to the Operative Treatment of Acute Intestinal Obstruction, Nicholas Senn, Chicago, Ill.

Discussion opened by S. McMurtry, Louisville.

WEDNESDAY, JUNE 8.—AFTERNOON SESSION, 3 O'CLOCK.

Abdominal Surgery.

10. The Comparative Merits of Inguinal and Rectal Colotomy, J. M. Mathews, Louisville, Ky.
11. Intestinal Lesions in Abdominal Surgery, Joseph Price, Philadelphia, Pa.
12. On the Treatment of Injuries of the Abdomen not requiring Surgical Operations, J. Schneck, Mt. Carmel, Ill.
13. Emergency Work in Abdominal Surgery, Mordecai Price, Philadelphia, Pa.
14. The Present Status of the Surgery of the Vermiform Appendix, J. A. Wyeth, New York City.
15. Herniæ; Operable and Inoperable, T. H. Manley, New York City.
16. A Few Points in the Management of Strangulated Hernia, W. B. DeGarmo, New York City.
17. The Management of Gangrenous Hernia. Report of a Case, J. Ransohoff, Cincinnati.
18. Illustrations of Methods of Operating in Hernia, H. O. Marcy, Boston, Mass.

THURSDAY, JUNE 9—MORNING SESSION, 9:30 O'CLOCK.

Miscellaneous.

19. The Cremasteric Reflex in Varicocele, T. A. McGraw, Detroit, Mich.
20. Experimental Researches in the Implantation of the Ureters into the Rectum, R. Harvey Reed, Mansfield, Ohio.
21. Visceral Phlebotomy, George Harley, London, Eng.
22. Advances in Aseptic Surgery, F. J. Thornbury, Buffalo, New York.

THURSDAY, JUNE 9—AFTERNOON SESSION, 2:30 O'CLOCK.

Miscellaneous.

23. Operative Procedures at the Base of the Brain, Ernest Laplace, Philadelphia, Pa.
24. Gunshot Wounds of the Cerebrum, C. E. Ruth, Muscatine, Ia.
25. Air in the Veins, Edward Martin, Philadelphia, Pa.
26. Total Excision of the Lower Jaw for Malignant Disease, C. B. Nancrede, Ann Arbor, Mich.
27. Cosmetic Surgery of the Nose, J. B. Roberts, Philadelphia, Pa.
28. Notes on the Diagnosis and Treatment of Lupus, W. T. Corlett, Cleveland, O.
29. The Treatment of Infected Wounds of the Extremities by Continuous Immersion, F. Jenner Hodges, Anderson, Ind.

FRIDAY, JUNE 10—MORNING SESSION, 9:30 O'CLOCK.

30. Neurectomy of the Great Sciatic Nerve. Removal of Astragalus for Talipes Equinovarus. Removal of Salivary

Calculus. Amputation of Scrotum and Prepuce for Abnormal Condition of the Skin, R. Merrill Ricketts, Cincinnati, O.

31. Tracheotomy in Reference to Foreign Bodies in the Air Passages, W. F. Westmoreland, Atlanta, Ga.

32. Forced Respiration. Fell Method of Face Mask and Tracheotomy in Diphtheria. Report of Case, Geo. E. Fell, Buffalo, N. Y.

FRIDAY, JUNE 10—AFTERNOON SESSION, 2:30 O'CLOCK.

Surgery of Extremities, Genito-urinary, etc.

33. The Modern Treatment of Gonorrhœa and its Complications, J. J. Darby, Columbia, Ala.

34. A Rational Treatment of Enlarged Prostate, founded upon its Pathology, Ernest Laplace, Philadelphia, Pa.

35. Methods of Examination of Diseases of the Joints, W. R. Townsend, New York City.

36. Treatment of Compound Fractures, W. H. Myers, Fort Wayne, Ind.

37. Diseases of the Knee and Hip Joints, J. C. LeGrand, Anniston, Ala.

38. Amputations in the Light of Mechanical Science versus Prothetical Science. Illustrated with Artificial Limbs, S. L. McCurdy, Dennison, O.

39. Antiseptic Physiological Surgery, John C. Link, Terre Haute, Ind.

40. The Radical Cure of Hydrocele, by a New Method, H. O. Walker, Detroit, Mich.

DOMESTIC CORRESPONDENCE.

A Case of Perineal Section—Foreign Body Found in the Urethra.

To the Editor of the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION:

The following case may present some unusual points of interest:

I was consulted at different times by T. S., aged 55 years, a practitioner of medicine, *not* of the regular school of practice, in regard to a bladder trouble. He had frequent urination, and a constant discharge of pus. He stated that he had been shot by a pistol-ball through the scrotum during the late war. He said he thought he had stone in the bladder, or that the pistol-ball had lodged in or near the bladder. That he could not stand horse-back riding; had frequent perineal abscesses; was confined to his bed for days at a time occasionally. He was in bad health, and his general appearance indicated a urinary trouble. His urine had a horribly ammoniacal odor. I advised perineal section, and he consented. On March 17, 1892, I, being ably assisted by two members of the regular school of practice, performed perineal section. He was given chloroform at first, and the anæsthesia was continued with ether. The median line had been the seat of former inflammations, and the raphe was drawn to the right. On making an incision from the base of the scrotum to within half an inch from the anus, several blood vessels were severed. The fascia on the right side of the urethra was firmly adherent to the urethra, and the tissues were glued together from the effects of former inflammations. A whalebone filiform bougie had been introduced into the bladder, and a Gouby tunneled catheter pushed over it to a point in front of the membranous portion of the urethra, where it was arrested by some obstruction.

Just in front of the membranous portion of the urethra, and running back under it, was what appeared to be a sinus, from which the blood flowed freely. This could be arrested by pressure, or closing the opening of the sinus with a pledget of absorbent cotton; but as the pressure was removed, the blood would spout out, completely obscuring the parts. On close examination, there was found to be a hard body in the urethra just in front of the membranous portion. An incision, longitudinally, was made into the urethra, and a metallic substance which I thought might be the edge of a flattened bullet appeared to view.

My able assistant, Dr. T., seized it with a pair of small forceps and drew out a hairpin, or a wire bent in the shape of a hairpin broken off. It was about two inches long, and one of the ends had a short crook on it. The rounded end of the hairpin was pointed toward the bladder, and was just in front of the membranous portion.

On account of the bleeding from the above mentioned sinus, it was found impracticable to divide the membranous portion longitudinally, as had been intended, and rapid dilatation, according to the plan of S. D. Gross, was carried on, beginning with a small black rubber bougie, and using larger and larger instruments until a No. 17 English scale steel sound passed readily into the bladder. The wound was skilfully dressed by Dr. T.

We left the wound in the urethra in such a condition that it would drain freely if the urine should escape through it.

The patient made a rapid recovery. Urine escaped partially through the wound in the perineum up to the eighth day, when it ceased to escape through the wound and was discharged naturally and easily.

On the ninth day I examined the urethra with sounds. The stricture in the membranous portion had recontracted some, but a No. 13 English scale steel sound passed through it tolerably easy.

The operation had greatly benefited the patient. He only had to void the urine twice in twenty-four hours, and the ammoniacal odor had disappeared. The patient made a partial confession, stating that he had introduced the hairpin with forceps to dilate a stricture when he could not urinate some years ago. He had suffered untold agony for years. I kept the hairpin, and also a pair of forceps which he had used, as he said, to grasp stone, but which I think he had tried to extract the hairpin with. The forceps were made by a blacksmith. The patient had greatly damaged the urethra from meatus to bladder with forceps, bougies, catheters, etc. I advised him to cease further meddlesome interference with the urethra, and to put himself under the care of some competent surgeon, and rely on his instructions alone.

W. J. WELSH, M.D.

SELECTIONS.

DEFAULT OF CILARY ACTION AND DISEASE.—The default of ciliary action in the respiratory tract must have a most important bearing on disease, especially during the presence of fogs, whether they be moist or dry. Strong men with large powerfully acting chests, who move about in fog and dust, suffer considerably from loose cough, but are not long troubled by it. They cough up large quantities of secretion, which is as black as if soot had been mixed with it, and which is, in fact, bronchial mucus loaded with soot. The fine particles of carbon in the air have been carried into the minute bronchial ramifications, and have been brought back into the larger bronchi from tubes, in which they would easily produce dangerous obstruction but for the active motion of the ciliary fibres. This motion is going on steadily night and day, and is relieved by frequent cough, through which small quantities of mucus are expelled. During the night when the cough is quiet the mucus carried to the upper portion of the bronchial tract accumulates there, and gives rise, on awakening, to a series of coughs, during which free quantities of dark mucus are expectorated, and all accumulation is thrown off. It is a good sign of healthy lungs when a free expectoration of dark sputum is followed

by a small quantity of white clear mucus. The difference indicates that the ciliary vitality is sound, and that the lung remains, on each side, a good filter.

As a general fact the ciliary vitality runs with age: in the young it is most active; in the middle-aged it continues good; in old age it begins to decline; and in the very aged it probably ceases altogether. In the chronic bronchitis of the aged the absence of ciliary motion must add considerably to the danger of inhaling atmospheres charged with particles of smoke and dust. The knowledge of this very simple and elementary physiological fact is full of meaning of a practical kind. People as they get on in life are apt to become of indolent habit. They like the luxury of the easy-chair and chimney corner; they dislike to face the weather. The old scholar gets into his library, and there in the midst of his books, which are the worst accumulators of dust in the world, he luxuriates in a very ocean of fine particles which he does not recognize. If a ray of sunlight strikes across his room he is startled at seeing in what a cloud he is immersed, or if he takes down a few books all at once for a search, he is surprised to observe how he has blackened his hands, and what a quantity of black sooty matter he coughs up afterwards. The old lady in her snug drawing-room, with its cushions and stuffed chairs and tasty bric-a-brac, sinks into similar luxurious ease, and observes when she goes in for putting things a little right the same signs of dirty air. These signs are good guides for the management of old bronchial passages, with their lifeless cilla. They tell the aged that when they are obliged to stay within doors in dull and treacherous seasons the air inside may be as injurious as the air without. They declare as clearly as if they were speaking phenomena that the air of the apartment is dangerously full of dust, and that the ciliary brushes are not in sufficient force to clear the passages lying between the air and the blood. Hence the moral. Have the air of the room cleansed, and, if it be possible, go out into fresh air to give the lungs a good chance of purification. In my practice I am often consulted by men of business, or of letters, who, having passed the meridian of life, still pursue, and would very judiciously pursue, their usual avocations, except that in their offices or libraries the air is bad from the presence of dust. To these, suffering from bronchial cough with dark sputum, I always prescribe a day or two of country air as the lung-purifier of the best sort. In mild, warm weather the sea air may be the best for such persons, but in less promising weather country air, in a pure locality, is just as good. Nor is it necessary to go far from a town. To the Londoner the air of Sydenham or Chislehurst is excellent; and that of Hampstead Heath is good beyond dispute.—*The Asclepiad.*

THERE are a large number of causes of disease for which society is responsible and from which individuals suffer. Only National, State and municipal authorities have power to rectify these conditions. Is there any more legitimate office of government than the protection of public health? We are tempted here to quote the Declaration of Independence and the Constitution of the United States. To secure the right to *life*, firstly, Governments were instituted—the right to life to ourselves and our posterity. But what is the comparative public expenditure for sanitary purposes? The best ability is permanently employed to adjudicate rights to property; who is retained to protect rights to health? Numerous legislative and executive departments are formed for various purposes; where are the departments of hygiene? We beg our readers to ask people if they are really solicitous for the public health? And let it be seen and known of all men that the profession is not indifferent on this subject.—*Massachusetts Med. Journal.*

TREATMENT OF METRITIS OF THE OS BY INTERSTITIAL INJECTIONS OF CREASOTE. Dr. Touvendit (*Gazette de Gynécologie*).—This troublesome affection of the os, which varies in intensity from catarrh to severe inflammation with ectropion, can be well treated by the surface application of creasote in its slighter forms, and better still by its submucous injection in the graver. The author uses a mixture of equal parts of creasote, glycerine and alcohol. The vagina is carefully mopped or syringed out and a cylindrical speculum passed, and then, with the aid of a Pravaz syringe with a very long barrel, a few drops of the liquid are inserted at two or three points about $\frac{1}{4}$ of an inch deep. The rapidity of the absorption is shown by the fact that the patient can taste the creasote, usually, within a few minutes of its injection. There is no pain, only a feeling of warmth locally, and the operation can be repeated in three or four days, and usually with excellent results.

PHYSIOLOGY IN THE PUBLIC SCHOOLS.—In the report of the Massachusetts State Board of Education recently issued, Mr. G. H. Martin comments upon the teaching of physiology and hygiene under the law of 1885. This law had special reference to the effect of stimulants and narcotics upon the human system, and the instruction was expected by some of the promoters of the law to inculcate in the youthful mind an abhorrence of intoxicating liquors. Mr. Martin arrives, among others, at the following conclusions: The outcome in accurate knowledge resulting from much of the work done is meagre, and out of proportion to the time spent upon it. Many false impressions are left in the minds of the students; physiological details are not suited to young children. However defective the system of instruction may be, the sentiment of the schools is sound—the conviction that alcohol and tobacco are bad things to use seems universal. Where exaggerated notions of the effects of stimulants have been acquired, there is danger of a reaction of sentiment in the light of after-knowledge. Among the suggestions which he makes are, that teachers prepare this subject with more care and see that their statements are true, and by frequent tests ascertain that their teaching is properly comprehended, and that the use of text-books should be limited to the older pupils. The moral and social effects of the abuse of intoxicants should be made more prominent, and abstinence be advised for other reasons than such as concern only the body.—*Boston Med. and Surg. Journal.*

MISCELLANY.

NATIONAL CONFERENCE OF STATE BOARDS OF HEALTH.

Officers.—President, J. N. McCormack, Bowling Green, Ky.; Secretary, Dr. C. O. Probst, Columbus, Ohio; Treasurer, Dr. Henry B. Baker, Lansing, Mich.

The Eighth Annual Meeting of the Conference of State Boards of Health will be held in Lansing, Michigan, June 6, 1892.

The meeting will convene at 10:00 A.M., in the Senate Chamber of the State Capitol.

Governor Winans will informally receive the members of the Conference in the Executive Rooms in the State Capitol during the day or evening of June 6. The Local Committee has expressed the hope that the time of the members of the Conference will permit of their visiting the three other State Institutions located at Lansing.

Headquarters will be at the Hotel Downey, where special rates have been secured.

THE FOLLOWING QUESTIONS FOR THE CONSIDERATION OF THE CONFERENCE HAVE BEEN RECEIVED BY THE SECRETARY.

Proposed by the State Board of Health of Connecticut.—*a.* What is the most practicable way of providing a hospital for contagious diseases for a town or community of a popu-

lation of 5,000, the same to be always ready for the reception of patients? *b.* What will be the average cost of maintaining it, per annum; the probable number of patients it would be called upon to receive being regarded in the estimate? Discussion opened by Dr. L. F. Salomon, of New Orleans, La., and Dr. Louis Balch, Albany, N. Y.

Proposed by the State Board of Health of Indiana.—How strict should the quarantine be in cases of diphtheria and scarlet fever? Discussion opened by Dr. Thos. J. Dills, Ft. Wayne, Ind., and a member of the Iowa Board of Health.

The Michigan Plan of Sanitary Conventions.—By Prof. Delos Fall, Albion, Michigan.

Proposed by the State Board of Health of Louisana.—*a.* What should be the relations of State and County Boards of Health? *b.* What should be the relation of State Boards of Health to National Authorities? *c.* What should be the relation of State Boards of Health to the State? Discussion opened by Dr. C. P. Wilkinson, New Orleans, La.

Proposed by the State Board of Health of Pennsylvania.—In view of the increasing frequency of communication between the Republic of Mexico and the United States, and of the constant prevalence of typhus fever in the former country, is there such probability of the introduction of that disease into the United States as to make it important for Health Officers along the southern frontier to use especial vigilance on that account. Discussion opened by Dr. Robert Rutherford, Houston, Tex., and Dr. L. F. Salomon, New Orleans, La.

Proposed by the State Board of Health of Ohio.—What measures can be enforced to prevent the spread of infectious diseases in rural districts. Discussion opened by Dr. J. T. Reeve, Appleton, Wis., and Dr. J. Berrien Lindsley, Nashville, Tenn.

The Relation of the Laboratory of Hygiene to the Work of the State Board of Health.—By Prof. Victor C. Vaughan, Director of the State Laboratory of Hygiene, Ann Arbor, Mich.

Proposed by the State Board of Health of Kentucky.—Should State Boards of Health be charged with the administration of medical practice laws? Discussion opened by Dr. Henry B. Baker, Lansing, Mich., and Dr. Jerome Cochran, Montgomery, Ala.

Proposed by the Provincial Board of Health of Ontario.—*a.* Has intra-State, inter-State, and International action to prevent the sewage pollution of streams become a necessity? *b.* If so, what steps are practicable for bringing about conjoint action? *c.* What practical methods are available for preventing such pollution? Discussion opened by Dr. Benjamin Lee, Philadelphia, Pa., and Dr. P. H. Bryce, Toronto, Ont.

The Public Health Work in Michigan.—By Dr. Henry B. Baker, Secretary of State Board of Health, Lansing, Mich.

Proposed by the State Board of Health of Tennessee.—The practical working of inter-State notification. Discussion opened by Dr. P. H. Bryce, Toronto, Ont., and Dr. J. Berrien Lindsley, Nashville, Tenn.

Proposed by the State Board of Health of Vermont.—The part played in the spread of tuberculosis by the flesh and milk of tuberculous cattle. Discussion opened by Dr. C. H. Fischer, Providence, R. I., and Dr. Victor C. Vaughan, Ann Arbor, Mich.

Proposed by the State Board of Health of Pennsylvania.—Is the disinfection of baggage essential to effective quarantine? Discussion opened by Dr. C. H. Hewitt, Red Wing, Minn., and Dr. S. R. Olliphant, New Orleans, La.

UNFINISHED BUSINESS.—Report of the Committee to formulate a plan for the creation and organization of County and other Local Boards of Health. Dr. Henry B. Baker, Michigan; Dr. C. A. Lindsley, Connecticut; Dr. Benjamin Lee, Pennsylvania, Committee.

Report of the Committee to make a Codification of the Health Laws of the different States and Provinces: Dr. A. G. Young, Maine; Dr. H. B. Baker, Michigan; Dr. Wm. Oldbright, Ontario, Committee.

Report of the Committee on the Collective Investigation of Diseases: Dr. C. H. Fisher, Rhode Island, Dr. S. W. Abbott, Massachusetts, Dr. Benjamin Lee, Pennsylvania, Committee.

Report of the Committee on Vital Statistics: Dr. Henry B. Baker, Michigan.

Report of the Committee on the Prevention of Consumption: Dr. P. H. Bryce, Ontario; Dr. L. F. Salomon, Louisiana; Dr. Victor C. Vaughan, Michigan, Dr. Irving A. Watson, New Hampshire; Dr. Henry B. Baker, Michigan, Committee.

Report of the Committee on the Pollution of Streams, and the Formation of Rivers Conservancy Commissions: Dr. L. F. Salomon, Louisiana, Dr. C. A. Lindsley, Connecticut, Dr. C. N. Metcalf, Indiana, Dr. John H. Rauch, Illinois, Dr. Henry P. Walcott, Massachusetts, Committee.

The Conference will adjourn Tuesday afternoon in order that its members may go to the Association meeting at Detroit in the evening. DR. C. O. PROBST, Secretary.

AN ACT TO REGULATE THE PRACTICE OF MIDWIFERY IN THE STATE OF NEW JERSEY.

1. Be it enacted by the Senate and General Assembly of the State of New Jersey, That every person practicing midwifery in any of its branches, shall possess a certificate from the State Board of Medical Examiners as hereinafter provided.

2. And be it enacted, That every person now practicing midwifery in cities of the first and second classes in this State shall, within thirty days after the passing of this act, personally present to the State Board of Medical Examiners an affidavit setting forth the name, nationality, age, authority, location and length of practice, together with a certificate of good moral character from some registered physician, resident of the same district; whereupon the board, on receipt of a fee of one dollar shall issue a certificate, signed by its president and secretary and bearing the seal of the said board, entitling the person named therein to practice midwifery in this State.

3. And be it enacted, That every person hereafter beginning the practice of midwifery in this State, shall appear before the State Board of Medical Examiners and submit to such examinations in midwifery as the board shall require, and if such examination is satisfactory to the examiners, the board shall, upon the receipt of a fee of five dollars issue a certificate the same as provided in section two of this act.

4. And be it enacted that the person so receiving said certificate shall file the same or a true copy thereof with the clerk of the county in which she resides, and said clerk shall file said certificate or a copy thereof, and enter a memorandum thereof, giving the date of said certificate and the name of the person to whom the same is issued, and the date of said filling, in a book to be provided and kept for that purpose; and for which registry the said county clerk shall be entitled to demand and receive from each person registering the sum of twenty-five cents.

5. And be it enacted, That the State Board of Medical Examiners are hereby authorized and empowered to execute the provisions of this act, and shall hold examinations of candidates for certificates in midwifery, at such times and places as may be deemed expedient.

6. And be it enacted, That the State Board of Medical Examiners may refuse licenses to persons guilty of unprofessional or dishonorable conduct, and may revoke licenses for like cause, or for neglect to make proper returns of the various health officers, of births, and the cases of puerperal and other contagious diseases occurring in their practice.

7. And be it enacted, That any person shall be regarded as practicing midwifery within the meaning of this act who shall publicly profess by advertisement, sign, card or otherwise, to be a midwife, or who shall, for a fee, attend to women in child birth, but nothing in this act shall be construed to prohibit gratuitous service in case of emergency, nor to the legally qualified physicians or surgeons of this State.

8. And be it enacted, That any person practicing midwifery in this State without first complying with the provisions of this act, shall be guilty of a misdemeanor, and shall be punished by a fine of not less than ten dollars nor more than fifty dollars, or by imprisonment in the county jail for not less than ten nor more than thirty days, or both, in the discretion of the court.

9. And be it enacted, That all acts or parts of acts inconsistent herewith be and the same are hereby repealed, and that this act shall take effect immediately.

Approved March 28, 1892.

OFFICIAL LIST OF CHANGES in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from May 14, 1892, to May 20, 1892.

Major James P Kimball, Surgeon U. S. A., leave of absence granted is extended one month.

First Lieut. Henry A. Shaw, Asst. Surgeon U. S. A., is granted leave of absence for two months, to take effect June 25, 1892, or as soon thereafter as his services can be spared.

Asst. Surgeon William N. Suter, U. S. A., to be Asst. Surgeon with the rank of Captain, May 16, 1892, after five years' service, in accordance with the Act of June 23, 1874.

First Lieut. Theodore F. DeWitt, Asst. Surgeon U. S. A., resigned May 16, 1892.

A board of medical officers, to consist of Lieut.-Col. William H. Forwood, Surgeon; Major Joseph R. Gibson, Surgeon; Capt. Henry S. Turrill, Asst. Surgeon, is appointed to meet at West Point, N. Y., June 1, 1892, or as soon thereafter as practicable, for the physical examination of the cadets of the graduating class at the U. S. Military Academy and such other cadets of the Academy, and candidates for admission thereto, as may be ordered before it.

OFFICIAL LIST OF CHANGES in the Medical Corps of the U. S. Navy, for the Week Ending May 21, 1892.

Medical Director P. J. Horwitz (retired), granted six months' leave to go abroad.

Surgeon P. A. Lovering, detached from the U. S. S. "Philadelphia," and granted two months' leave of absence.

P. A. Surgeon R. P. Crandall, detached from the Naval Laboratory, Brooklyn, N. Y., and to the U. S. S. "Philadelphia."

Asst. Surgeon E. S. Bogert, Jr., detached from Coast Survey Str. "Blake," and to the Naval Laboratory, Brooklyn, N. Y.

Asst. Surgeon J. A. Guthrie, detached from Port Royal Station, S. C., and to Coast Survey Str. "Blake."

Surgeon H. C. Eckstein, granted leave of absence for six months.

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